THIS ENVELOPE
CONTAINS

OPERATOR'S MANUAL

OM-B1-1255

for the

JOHN DEERE CORN PLANTER
TWO-ROW TRACTOR
No. 290

TO THE DEALER

THIS ENVELOPE ALSO CONTAINS CHECK LIST, OWNER'S REGISTER, AND SHIPPING BUNDLE INFORMATION ON A SEPARATE SHEET INSERTED IN OPERATOR'S MANUAL.

OPERATOR'S MANUAL

OM-B1-1255

JOHN DEERE

This manual
contains correct
information
regarding lubrication,
operation, maintenance, assembly,
and parts

CORN PLANTER
TWO-ROW TRACTOR
No. 290

For the best service see your
JOHN DEERE DEALER
Use Only Genuine John Deere Parts

TO THE PURCHASER

Your new planter was built in the world's largest planter factory. Many of the workmen in this plant have been building John Deere Planters for 20 years and more, thus assuring the utmost in skill and good workmanship so essential to the production of good planters.

Your new planter is provided with the necessary adjustments so that it will do the best work in varying conditions. These adjustments are fully covered in this manual. Study it carefully. Make it your guide. Refer to it often. Only by following the suggestions it contains can you hope to get the most from your investment.

Your new planter may need service at some future date, not covered in this manual, and we suggest you take advantage of the facilities offered by your John Deere dealer. He has trained mechanics who are kept informed on the best methods of John Deere service and can give you prompt "know-how" service in the field or shop.

Whenever you require parts, give your dealer the information recorded at the bottom of this page. It will help him to give you prompt and efficient service.

Wherever the terms "Right" and "Left" are used, it should be understood to mean from a position behind and facing the same direction machine will travel.

SERIAL NUMBERS

Write Serial Number of your Planter here. . . . .

You will find the serial number stamped on the right rear corner of planter frame. **BE SURE** to use this number when ordering parts or writing about your planter.

STUDY THIS MANUAL CAREFULLY AND KEEP IT HANDY IN A SAFE PLACE FOR FUTURE REFERENCE.

John Deere No. 290 Corn Planter

Date of Purchase. . . . . . MAY **19**1957

(To be filled in by Purchaser)

TABLE OF CONTENTS

Page

LUBRICATION 2–3

IDENTIFICATION VIEWS 4

OPERATION 5–37

- Drill Shaft Shifter 5
- Power Lift 5
- Automatic Wire Release 6
- Automatic Marker Control 6
- Reel and Level Winding Device 6
- Tractor Wheel Tread Adjustment 7
- Tire Inflation 7
- Hitching Planter to Tractor and Marker Adjustment 7
- Transporting Planter 8
- Drilling 9
- Check-Row Planting 10–15
- Row-Width Adjustment 16
- Hitch Adjustment 16
- Planting Depth Adjustment 16
- Wire Release 17
- Check Forks 17
- Trash Removers 17
- Marker Adjustment 18
- Lift Clutch Drive Chain Adjustment 18
- Drilling Distances 19
- Soybean Chart 20
- Seed Plates 21–23
- Fertilizer Attachment 24–29
- Double-Disk Furrow Openers and Knife Covering Attachment 30
- Automatic Hill-Drop Attachment 31–32
- Pea Attachment 32
- Steel Wheels 32
- Gauge Shoes 33
- Zero Pressure Press Wheel Tires 34
- Double-Disk Opener 35
- Powr-Trol Attachment 35–37
- Spring Pressure Attachment 39
- Safety Suggestion 39

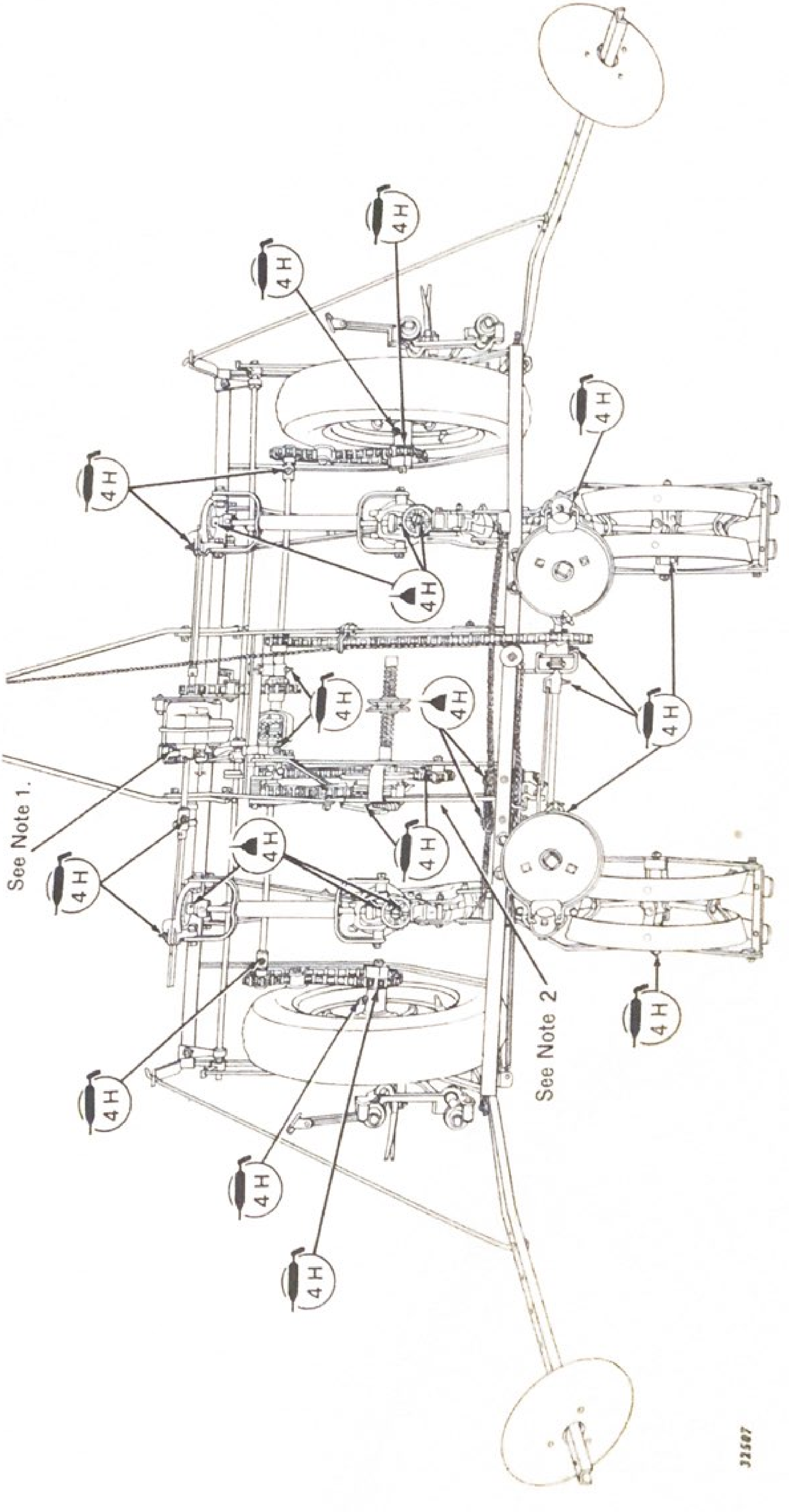
SERVICE 40–46

- Service at Beginning and End of Season 40
- Runner Adjustment 41
- Rocker Shaft Bearings 41
- Lifting Mechanism 41
- Valve Adjustment 42
- Timing the Planter 43–44
- Common Difficulties 45–46

ASSEMBLY 47–49

PARTS LIST 50–68

LUBRICATION



LUBRICATION—Continued

Important: The initial lubrication is of utmost importance to assure long life and satisfactory performance of the planter.

Warning: The planter is shipped from the factory with no oil in the gear case. Be sure to check the gear case for oil before starting the planter.

Wipe dirt from fittings before greasing. If a grease fitting is lost, replace it immediately. Lubricate all parts thoroughly, but avoid excessive lubrication. Excess lubricant gathers dust.

CAUTION: Never clean, lubricate, or adjust planter or tractor when in motion.

SYMBOLS

4 H —Grease every 4 hours of operation

4 H —Oil every 4 hours of operation

LUBRICATION NOTES

Note No. 1—Remove oil plug and fill gear case with S.A.E. 20 oil. Check oil level every fifty acres.

Note No. 2—Grease slide casting when planting units are in lowered position.

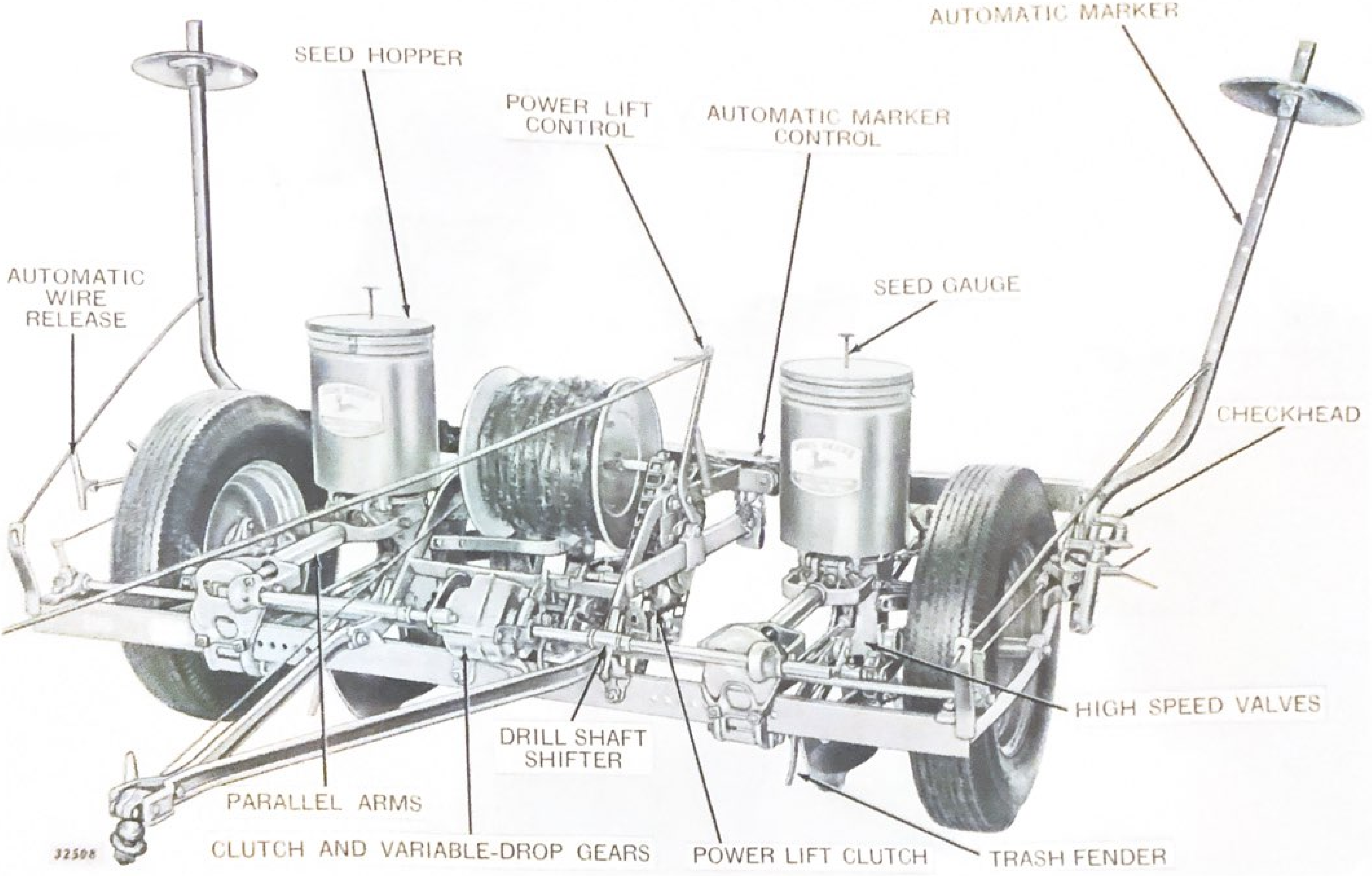


Figure 1—John Deere No. 290 Two-Row Tractor Corn Planter

OPERATION

Drill Shaft Shifter.

When checking, the setting of the shifter determines the number of seed plate cells that pass the knocker in the seed can each time the valve is tripped. The markings are calibrated for use with 16-cell seed plates. For example, with the shift lever set on "4," four cells will pass the knocker, dropping four seed kernels into the valve for planting in a hill. With an 8-cell plate, two seed kernels would be planted.

When drilling seed, the shifter setting determines the spacing of the seed kernels in the row. The chart on Page 19 gives the spacings that can be obtained.

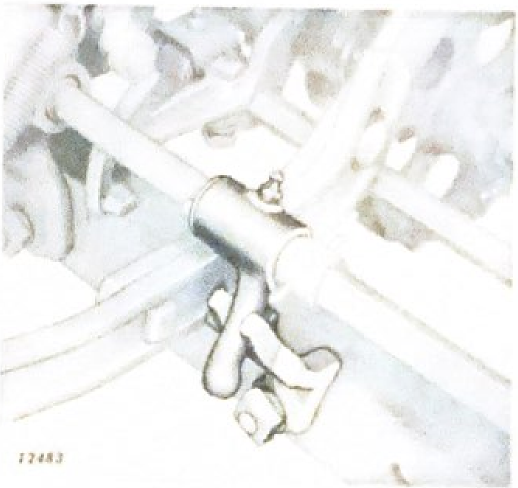


Figure 2—Drill Shaft Shifter

Power Lift.

The built-in power lift raises and lowers the planting units and markers with power taken from the ground wheels. It is controlled from the tractor seat by a convenient rope. A pull raises the planting units and markers, and another pull drops them. The runners do not fall the instant the rope is pulled, but drop only after the planter starts to move forward. This delayed action keeps the runners from plugging with dirt.

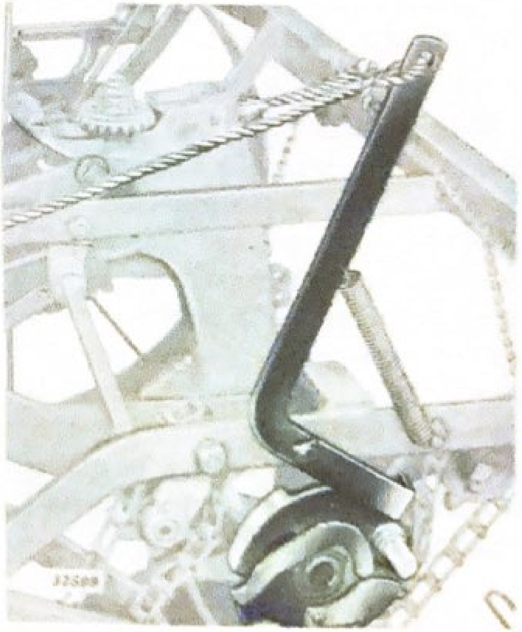


Figure 3—Power Lift

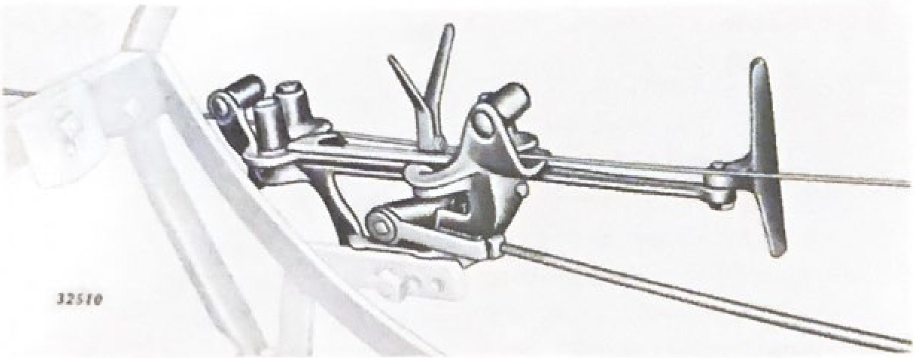


Figure 4—Automatic Wire Release

Automatic Wire Release.

The adjustable trip arm at the front of the checkhead automatically releases the wire at the ends of the field. It is tripped by pressure of the check wire as the planter approaches the anchor stake. This device also prevents breakage of the check wire should it become snagged. The wire can be easily threaded into the check forks from the anchor stake.

Automatic Marker Control.

The marker control determines which marker will fall when the power lift is tripped. This control is operated by a chain attached to an arm on the planter hitch. The markers are alternated only when the tractor makes a sharp turn. As a result, the markers alternate when the outfit makes a sharp turn at the row-end, but if the planting units are raised to cross a ditch or grassed waterway, the marker previously in operation drops back again.

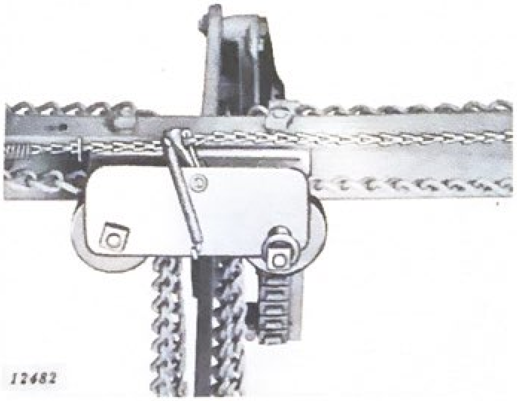


Figure 5—Automatic Marker Control

Reel and Level Winding Device.

When reeling up the check wire, a level winding device, which works back and forth on a reversible worm, guides the wire onto the reel evenly. The chain-driven reel is equipped with adjustable friction bearings on each end to keep the wire winding on tight. When laying out the wire, these friction bearings keep the wire from turning too fast.

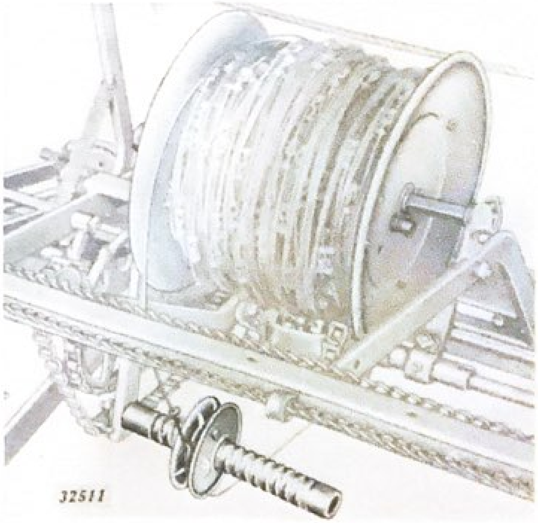


Figure 6—Level Winding Device

Tractor Wheel Tread Adjustment.

The planter wheels are 64 inches apart and, for planting checkrows, the tractor wheels should never be any wider apart than this in order to clear the wire. If possible, the tractor wheels should be set so that the planter wheels run in the center of the tracks made by tractor. If this cannot be done, it is best to have the planter wheels run entirely outside the tractor wheel tracks.

Tire Inflation.

If the planter is equipped with rubber tires, keep them inflated to 18 pounds pressure for light draft and maximum tire life.

Hitching Planter to Tractor and Marker Adjustment.

The marker control is part of the tractor hitch and should be adjusted when the planter is hitched to the tractor. The markers are alternated only when the tractor is turned sharply to the right or to the left, such as is done at the ends of the rows. This makes it possible to raise the planter and marker when going over grassy strips or small ditches, and then drop the same marker as was used previously when planter is lowered again to planting position.

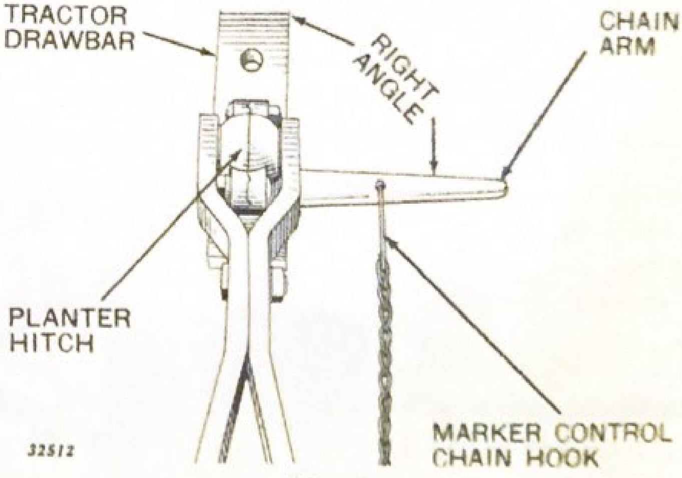


Figure 7

When attaching the planter hitch to the tractor drawbar, **be sure that the chain arm is at right angles and to the right side of tractor drawbar** (see Figure 7). **This chain arm must be held rigidly to tractor drawbar at all times** so that it forms a unit with the drawbar. Figure 1 shows planter ball-and-socket hitch attached above tractor drawbar, but it can also be attached under tractor drawbar, if necessary, to hold planter level. In this case, the chain arm will be above planter hitch, but in any case, the arm must always be on the right side of tractor drawbar and at **right angles** to it.

Attach the marker control chain hook to chain arm as shown in Figure 7.

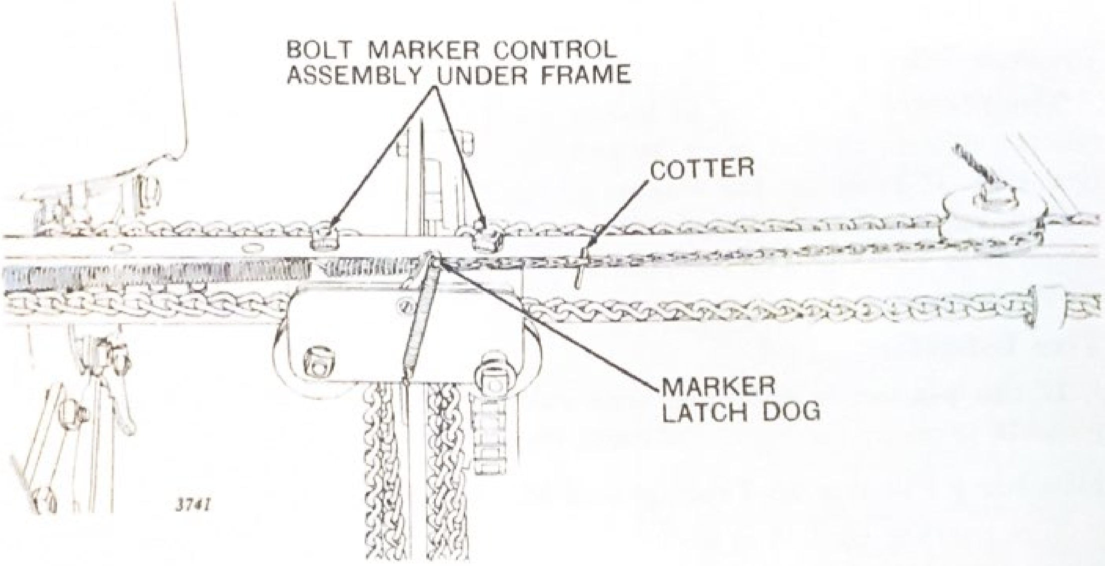


Figure 8

The length of the marker control chain and the location of the cotter, shown in Figure 8, should be correct for proper operation. However, should the markers fail to alternate after a sharp right turn, move the cotter to the left one link. Should the markers fail to operate after a sharp left turn, shorten the control chain one link at front end of chain, and move cotter one link to left. Figure 8 shows position of marker latch dog after making left turn. When the planting units are dropped, the right-hand marker will fall. After a right turn, the marker latch dog is in the opposite position, so that the left-hand marker will fall.

If both markers must be held up with the planter in lowered position, as is done when planting the last two rows next to a fence, one marker chain should be hooked into notch to hold the marker upright (see Figure 9).

Transporting Planter.

When transporting planter, hook the lifting chains in notches over chain sheaves, as shown in Figure 9. This takes the weight of planting units off the power lift. Also be sure the reel drive sprocket is disengaged in transport position. Figure 11 shows reel drive sprocket in engaged position.

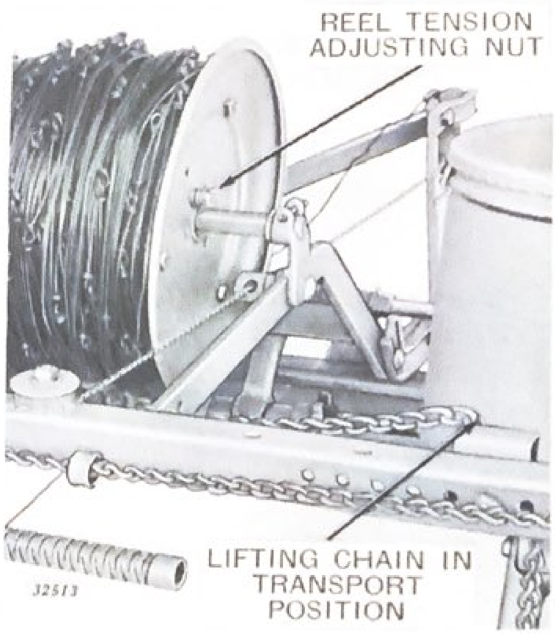

REEL TENSION ADJUSTING NUT
LIFTING CHAIN IN TRANSPORT POSITION
32513

Figure 9

DRILLING

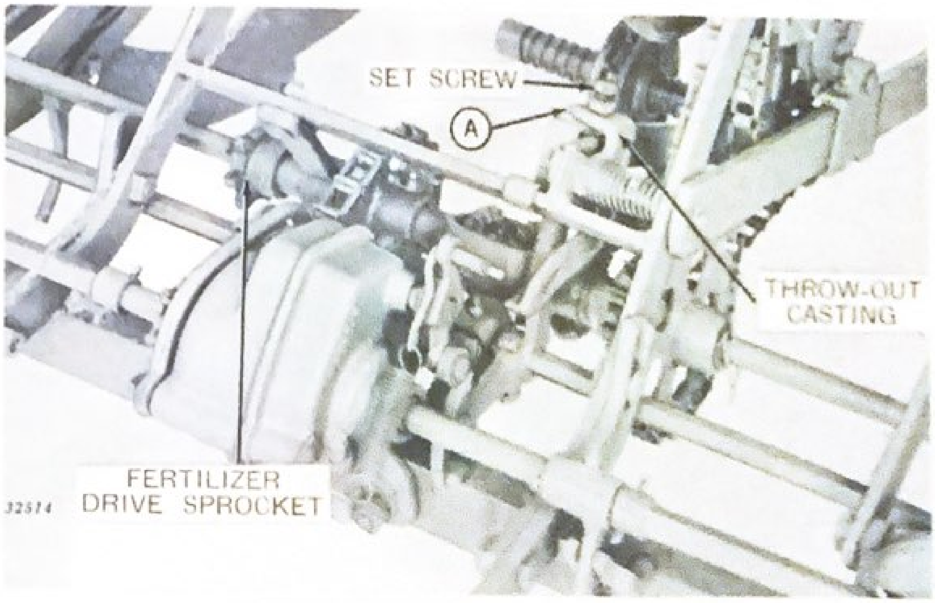


Figure 10

Setting Planter for Drilling.

With planter in raised position, compress the spring and move up throw-out casting, shown in Figure 10, so the set screw rests on top of lifting arm brace as shown. The casting now contacts arm on rocker shaft and will open the valves and engage planting clutch when planter is lowered. Trip the power lift and lower the planter to planting position, then adjust set screw so that valves are held fully open. The drilling will now automatically start and stop as planter runners are lowered and raised by power lift.

Setting Drilling Distances.

The distance between seeds when drilling is determined by the setting of the gear shaft shifter and the use of different sprockets. A table of approximate drilling distances is given on Page 19.

CHECK-ROW PLANTING

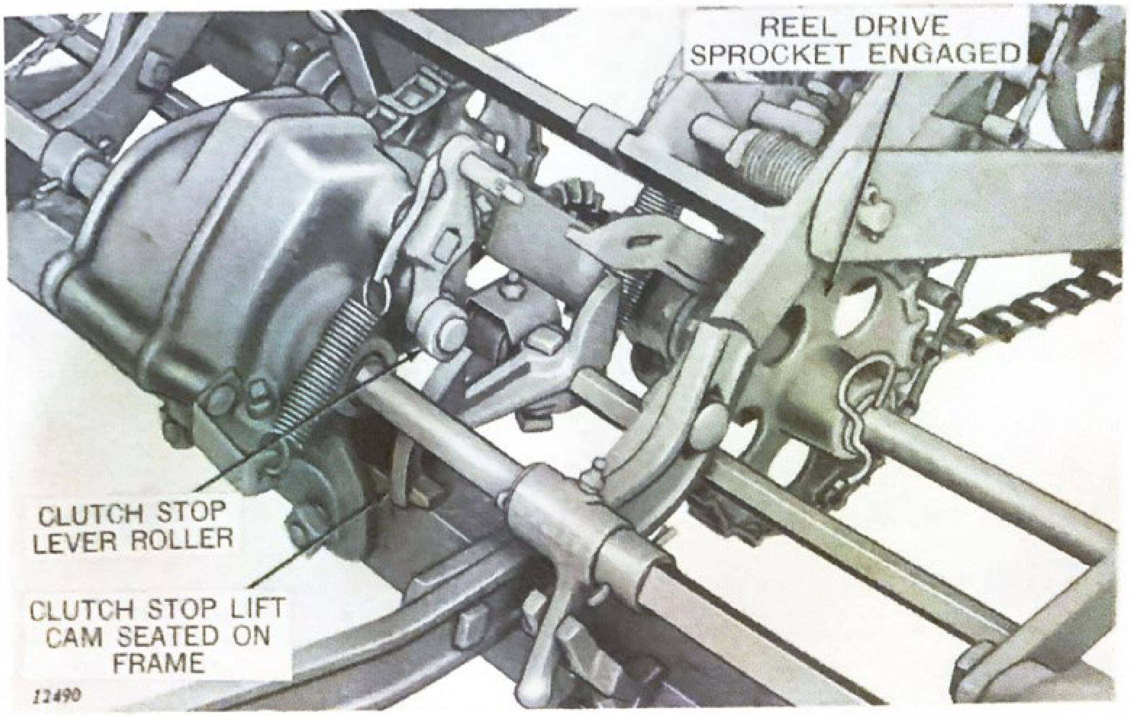

REEL DRIVE SPROCKET ENGAGED
CLUTCH STOP LEVER ROLLER
CLUTCH STOP LIFT CAM SEATED ON FRAME
12490

Figure 11

Setting Planter for Checking.

Push throw-out casting over, compressing the spring (Figure 10). Then lower rear end of casting until projection "A," Figure 10, engages hole in power lift arm brace as shown in Figure 11.

Check-Row Planting.

(First study chart on Pages 14 and 15.) When check-planting, it is advisable to first drill six rows across each end of the field where the wire anchor stakes will be set. These rows, as well as the mark made by the markers when drilling, then serve as a guide to indicate where to stop the planter after turning around at the ends.

After drilling six rows across one end of the field, the wire should be laid out before drilling the rows at the other end.

To lay out the wire, first engage the reel drive sprocket, shown in Figure 11, by rotating sprocket and forcing it toward center of planter. When sprocket slips into place, hold it there by placing pin in hole in shaft as shown in Figure 11. The outside hole for pin is used when transporting or planting.

Be sure reel is in position so the wire will unwind backwards from the top of reel. Place wire in hook on anchor stake chain and set stake in corner of field as close to fence as possible or about four feet outside of checkhead. Now drive forward and reel will unwind at a tension, laying out the wire. The tension of wire can be regulated by tightening or loosening the reel tension adjusting nut, Figure 9, on each end of wire reel.

Do not use too much tension on wire reel. As the wire reel is used, the tension will automatically increase. If the friction is adjusted too tight, it will result in unnecessary wear or breakage.

After the wire is laid out, drill the six rows across the other end of field, then stop the planter in position to check-plant the first two rows. The wire should be staked down behind the runner next to wire side, seven buttons back of planter checkhead, counting the button at the stake.

Page 15 shows method of turning planter and setting anchor stake. Note that end rows are drilled first to act as a guide for stopping after each turn is made.

Planting Speed.

When check-row planting, do not run tractor over five miles per hour. You should not pass more than 125 wire buttons per minute using 42-inch wire, 130 using 40-inch wire, 135 using 38-inch wire, 140 using 36-inch wire, 145 using 34-inch wire, 150 using 32-inch and 30-inch wire. If planter is set to drop four kernels per hill, do not go over four miles per hour. When check-planting in 30-, 32-, or 34-inch rows, a special 15-point drive sprocket, H2266B, must be used. Consult Page 32 for speeds recommended when using automatic hill-drop attachment.

Setting Anchor Stake.

When you reach the other end of the field, pull the trip rope once about nine buttons from the end. This will raise the planting units and the marker. The wire will be automatically released from checkhead at about the seventh button when it contacts the release arm on checkhead. Turn the planter in position for planting the next two rows, stopping as squarely over the mark as possible, seven buttons from stake. You can easily determine the correct position to stop by observing the position of mark made by marker when drilling the end-rows, with relation to the tractor when seven buttons from stake. (See sketch on Page 15 showing how to steer tractor when making turn.)

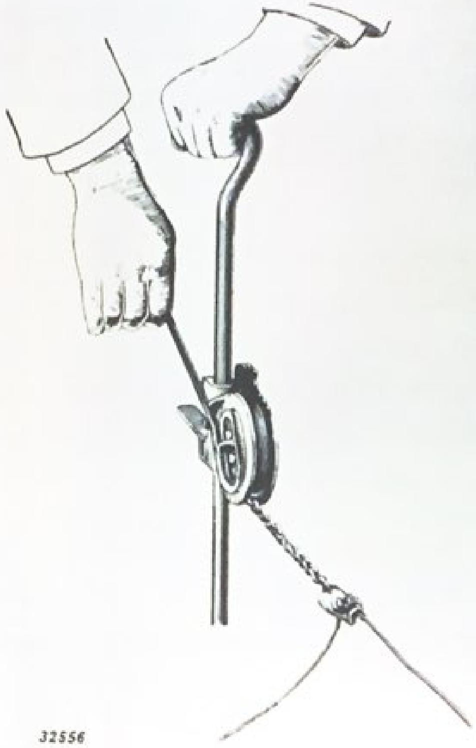


Figure 12—Tension Meter on Anchor Stake

Pull the anchor stake and let dog down in the first notch on pulley. With the stake in your hands, stand directly behind the checkhead on planter and throw the wire toward the planter using an upward circular motion, moving at least fifty buttons. Next, thread the wire into the check forks and close checkhead by a quick jerk on wire toward the planter. With the wire tight enough to take up all slack, set the stake in the ground DIRECTLY BEHIND THE RUNNER NEXT TO THE WIRE SIDE OF THE PLANTER. Then pull up on arm of spring tension meter until arm just touches the forward stop and let dog down into nearest notch (see Figure 12). This gives a uniform tension every time wire is staked down. The anchor stake foot bracket may be pushed up or down to regulate the length of stake in the ground for hard or soft ground. You are now ready to plant the next two rows. Drive the tractor as straight as possible over the mark, sighting some distance ahead of the tractor.

Adjusting Planter for Cross-Check.

After planting two or three rounds, stop and dig up about eight cross-rows to see if cross-check is good. Dig the hills very carefully to get the exact location of the kernels and then place a small stick in the exact center of each hill. Determine the direction of travel and if the hills are planted too far back (see Figure 13), move checkheads back one hole. If the hills are

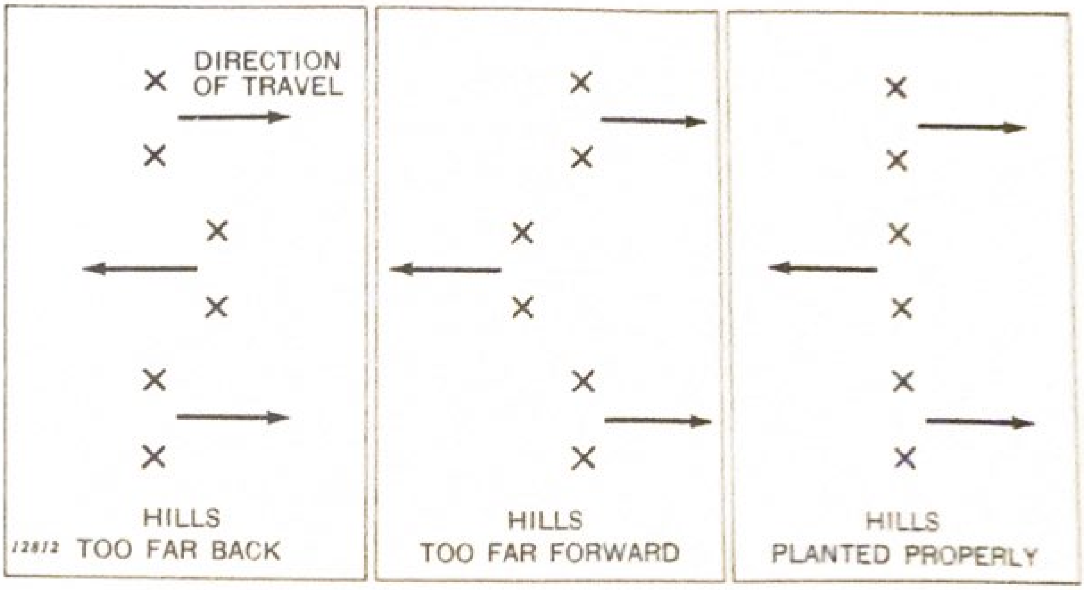


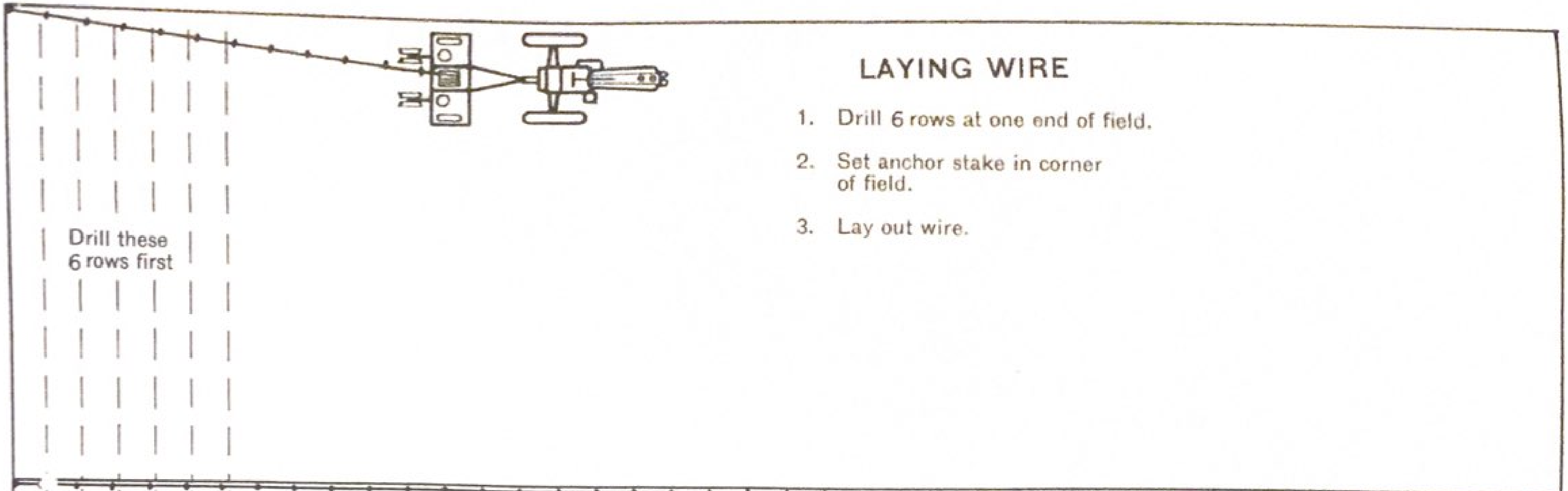
Figure 13—Testing Cross-Check

planted too far forward, move the checkheads forward. When the checkheads are moved, it is necessary to adjust the length of checkhead rods at "C," Figure 15. When doing this, the clutch stop lift cam must be seated down against the front frame to relieve the valves of all strain. There should be no play in checkhead rods when adjusted properly, and just enough in check forks to allow them to work freely.

If the checkhead adjustment is not sufficient to get a good cross-check, tipping the planter forward by lowering drawbar or by attaching rear end of planter hitch at the top hole will plant hills farther back. Tipping planter back by raising drawbar, or attaching rear end of planter hitch in bottom hole, will plant hills farther forward. Do not use this adjustment, however, unless proper handling of the wire and correct adjustment of checkheads fail to place hills in check.

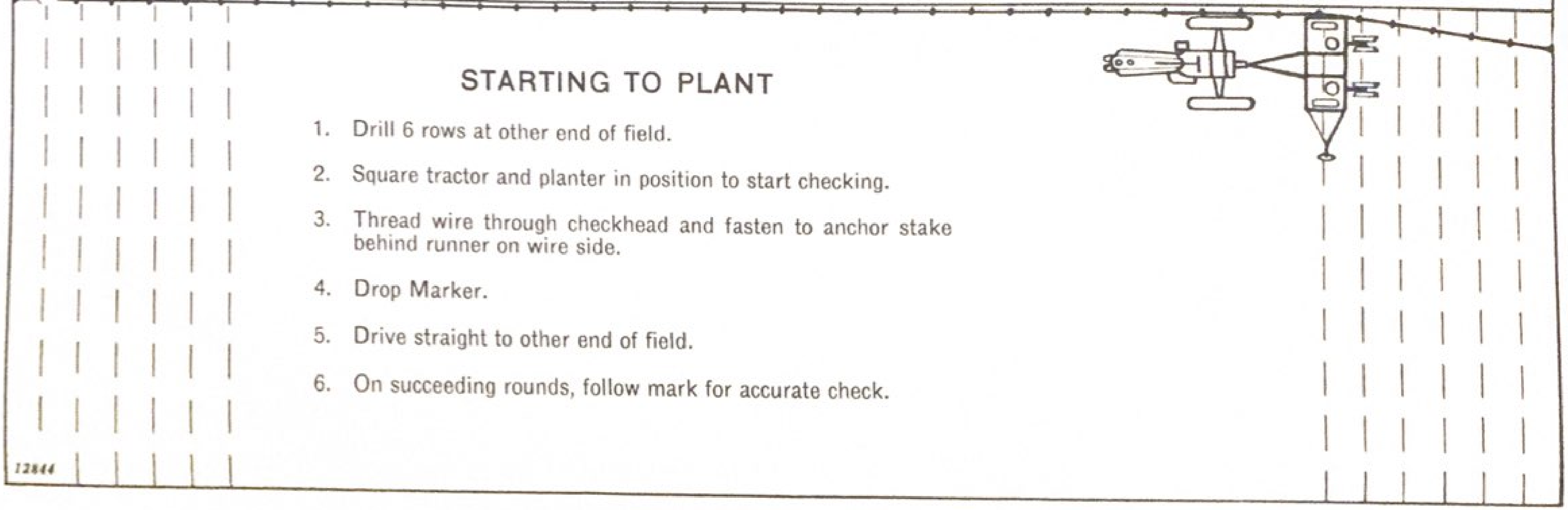
Reeling Up the Wire.

To reel up the wire, place reel in position with wire running under the sheave as shown in Figure 9. Be sure wire winds on the back of the reel. Now move the reel drive sprocket, by turning and pushing, over to the position shown in Figure 11 and hold it in place with pin. The counter drive shaft will now drive the reel and wind up the wire evenly as planter moves forward. The tension of wire on reel can be increased by tightening the adjusting nut **on each end of reel.**



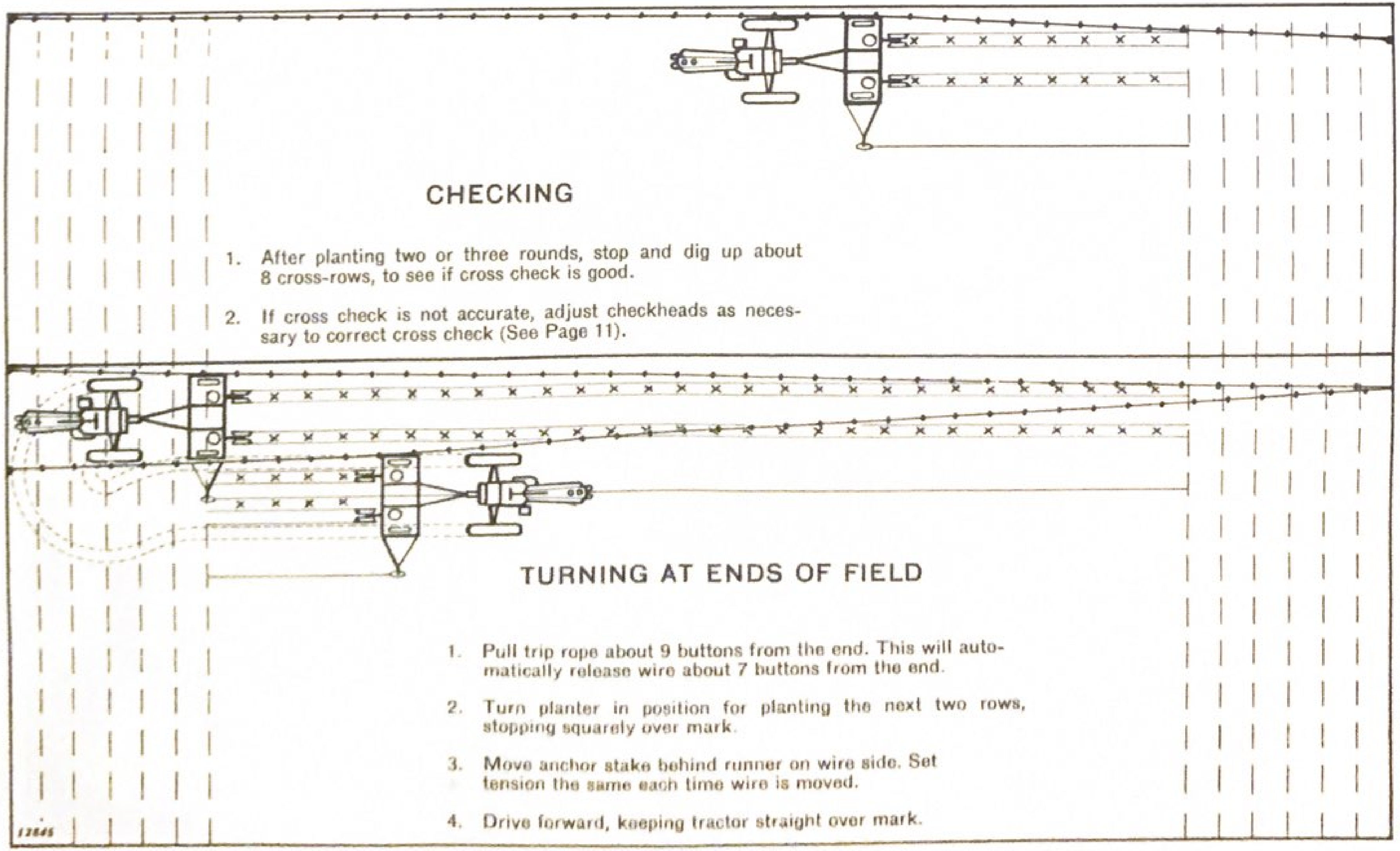
LAYING WIRE

1. Drill 6 rows at one end of field.
2. Set anchor stake in corner of field.
3. Lay out wire.



STARTING TO PLANT

1. Drill 6 rows at other end of field.
2. Square tractor and planter in position to start checking.
3. Thread wire through checkhead and fasten to anchor stake behind runner on wire side.
4. Drop Marker.
5. Drive straight to other end of field.
6. On succeeding rounds, follow mark for accurate check.



CHECKING

1. After planting two or three rounds, stop and dig up about 8 cross-rows, to see if cross check is good.
2. If cross check is not accurate, adjust checkheads as necessary to correct cross check (See Page 11).

TURNING AT ENDS OF FIELD

1. Pull trip rope about 9 buttons from the end. This will automatically release wire about 7 buttons from the end.
2. Turn planter in position for planting the next two rows, stopping squarely over mark.
3. Move anchor stake behind runner on wire side. Set tension the same each time wire is moved.
4. Drive forward, keeping tractor straight over mark.

Row-Width Adjustment.

The planter can be set to plant rows 30, 32, 34, 36, 38, 40, and 42 inches apart. It is set at the factory to plant 40-inch rows. For check-row planting 36-inch rows or over, be sure chain that drives the drill shaft is on the large sprocket. If check-row planting in 30-, 32-, or 34-inch rows, it is necessary to obtain a special 15-point sprocket, H-2266B, to drive the drill shaft. This sprocket does not come regularly with the planter. To change the row-widths, move planting units and valve pull rods over to the desired row spacing on front of planter and move the lift chain sheaves the same amount on the planter back frame. BE SURE THE PLANTING UNIT LIFTING CHAINS ARE SHORTENED OR LENGTHENED THE SAME DISTANCE AS EACH UNIT IS MOVED IN OR OUT AND BE SURE CHAINS ARE NOT TWISTED. Adjust marker disk to the right row width (see Page 18).

Hitch Adjustment.

If planter does not run level, the rear bolts holding hitch (see Figure 11) can be adjusted to three positions, which will raise or lower hitch. If this adjustment is not enough, the ball-and-socket at front end of hitch can be attached either above or below tractor drawbar. If fertilizer attachment is used, too high a hitch will cause fertilizer boots to run too deep which may cause clogging. When hitch is lowered the hills are dropped farther back, and it may be necessary to move checkheads one hole back to compensate for this (see checkhead adjustment on Pages 12 and 13). Always hitch planter so it is pulled from the exact center of tractor and see that there is no side play in hitch connection.

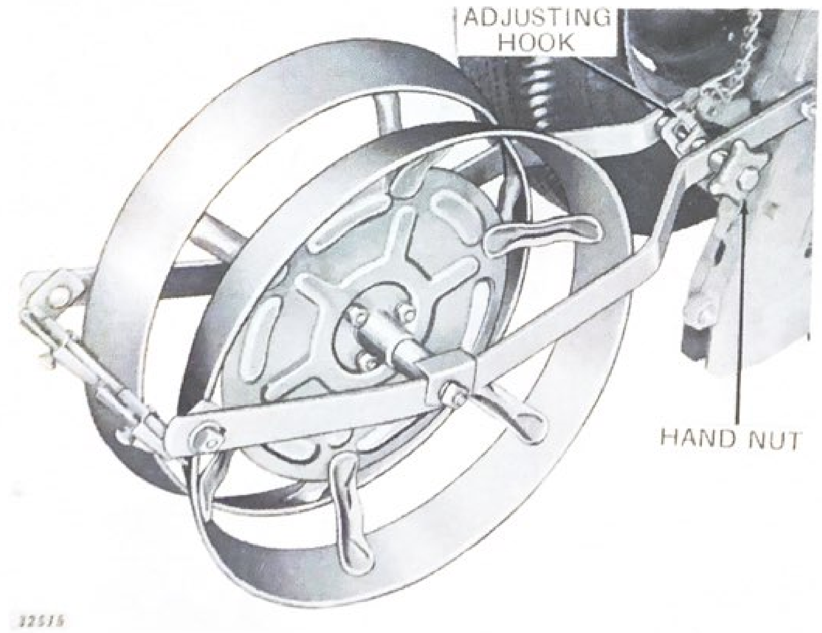


Figure 14

Planting Depth Adjustment.

To make the depth adjustment it is only necessary to loosen the hand nut, move press wheel frame up or down to the desired notch, in the pressure wheel adjusting hook, then tighten nut securely. The pressure wheel adjusting hooks have marks so that each press wheel can be set the same.

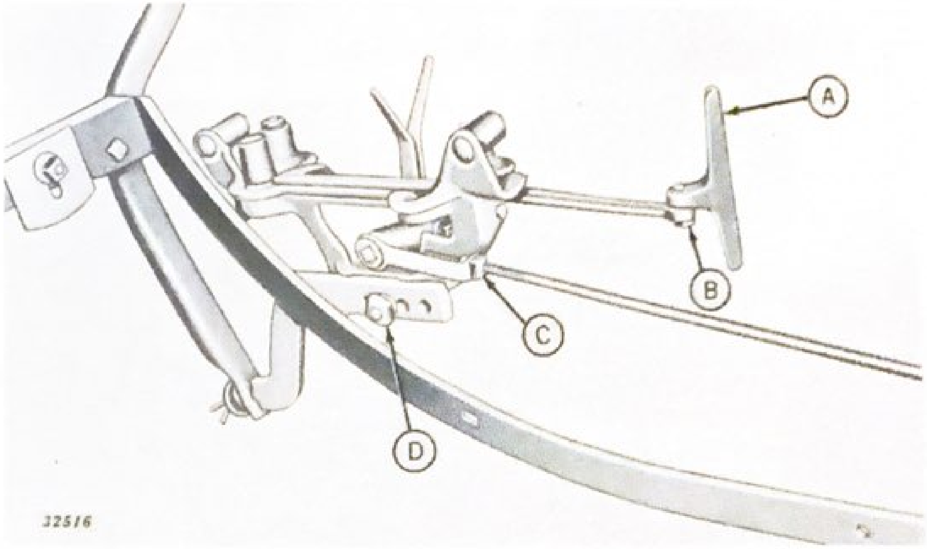


Figure 15—Checkhead

Wire Release.

The wire is released from checkheads by pressure against wire release arm, "A," Figure 15. When the planter is seven buttons from the anchor stake, as it approaches end of field, the angle of wire is such that it contacts this arm which then opens the checkhead and drops wire. If this arm is not set at the correct position to release wire seven buttons from anchor stake, counting the buttons attached to stake, it can be adjusted by loosening bolt "B" and turning as necessary.

Check Forks.

Be sure the gap in the check forks is not too narrow. The forks should be spread from 1/4-inch to 5/16-inch apart, otherwise slight kinks in the wire may trip the forks and scatter corn. Excess play in check forks can be taken up by adjusting bolt on which they pivot.

Trash Removers.

The trash removers in front of each runner should be set to go into the ground about 1/2-inch. They can be adjusted by loosening the bolt which holds them to runner and moving them up or down in the slotted hole in runner tip.

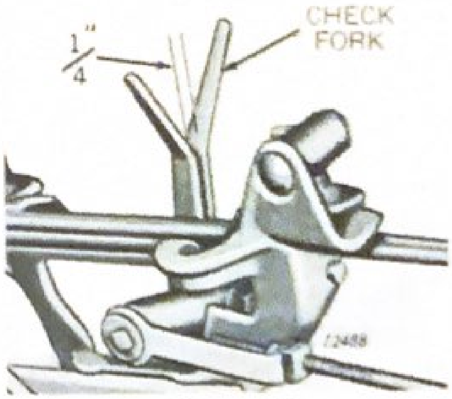


Figure 16

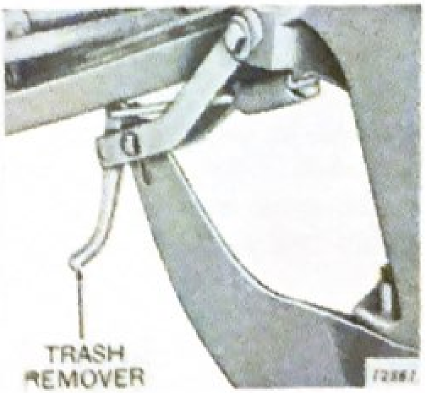


Figure 17

Marker Adjustment.

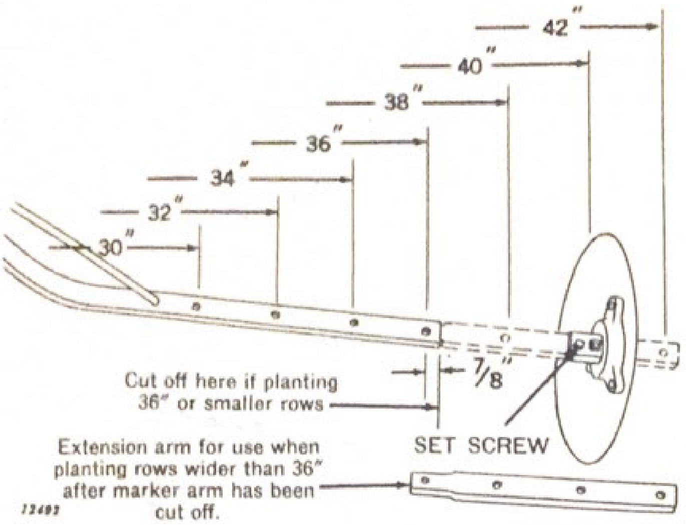

42"
40"
38"
36"
34"
32"
30"
7/8"
Cut off here if planting 36" or smaller rows
SET SCREW
Extension arm for use when planting rows wider than 36" after marker arm has been cut off.
13493

Figure 18

The marker is adjusted for different row-widths by bolting the marker disk hub through different holes in the marker arm (see Figure 18).

For 30-, 32-, 34-, and 36-inch rows, the marker arms must be cut off 7/8-inch outside the center of fourth hole from the end of marker arms (Figure 18). This must be done so marker arm will clear the ground when planting narrow rows.

If the planter is to be used for rows wider than 36 inches after the marker arms are cut off, two H1883B Marker Arm extensions must be used.

The angle of the marker disk can be adjusted through use of the small set screw (Figure 18).

Lift Clutch Drive Chain Adjustment.

This chain is adjusted by means of an eccentric in the chain idler. If an adjustment is made, be sure the sprockets are timed so that each of the three teeth on the idler run in the space between the teeth on the lift clutch bell sprocket (see "A," Figure 19).

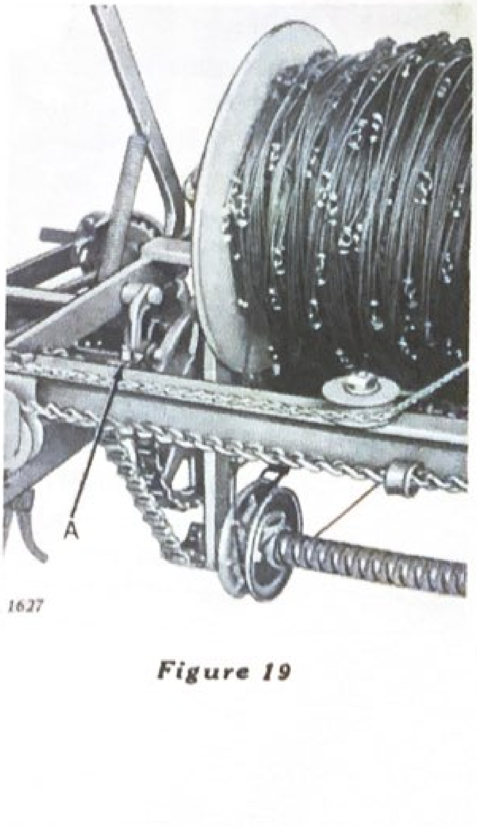


Figure 19

6 & 13 Point sprocket on planter

APPROXIMATE DRILLING DISTANCES IN INCHES

Special 7-point sprocket No. H2498B can be furnished in place of H2106B regular 6-point drill shaft driven sprocket. This sprocket will increase these distances approximately 1/6. This 7-point sprocket should not be used when check row planting.

No. of Cells in Plate	Drill Shaft Shifter Setting	6-Point Sprocket	13-Point Sprocket	Special 15-Point Sprocket for Checking 30", 32" and 34" Rows
8	2	62.8	29.0	25.0
	3	41.8	19.4	16.6
	4	31.4	14.4	12.5
12	2	41.8	19.3	16.6
	3	27.9	12.9	11.0
	4	21.0	9.6	8.3
16	2	31.4	14.5	12.5
	3	20.9	9.7 15,000 - 15,700	8.3 16,000 - 17,000
	4	15.7	7.2	6.2
20	2	25.1	11.6	10.0
	3	16.7	7.8	6.6
	4	12.5	5.8	5.0
24	2	20.9	9.7	8.3
	3	13.9	6.5	5.5
	4	10.5	4.8	4.1

APPROXIMATE POUNDS OF SOYBEANS PLANTED PER ACRE WITH H1255B 20-CELL PLATE

Special 7-point sprocket No. H2498B can be furnished in place of H2106B regular 6-point drill shaft driven sprocket. This sprocket will decrease these amounts approximately 1/7. This 7-point sprocket should not be used when check row planting.

Row Widths	Shift Lever	Small Sprocket 6-Point	Large Sprocket 13-Point	Special Sprocket 15-Point
30″	2	26	56	65
	3	39	85	97
	4	52	113	130
32″	2	24	53	61
	3	36	79	91
	4	48	106	121
34″	2	23	50	57
	3	34	74	45
	4	46	100	113
36″	2	22	47	54
	3	32	70	81
	4	43	94	108
38″	2	20	44	51
	3	31	67	76
	4	41	89	102
40″	2	19	42	49
	3	29	63	73
	4	38	84	97
42″	2	18	40	46
	3	27	60	69
	4	36	80	92

By using 20-cell plate No. H2527B with false plate No. H1279B the above amounts can be increased approximately 50 per cent. There are 60 pounds of Soybeans to the bushel.

SEED PLATES

NOTE: Many of these plates will work with seeds other than those listed.

Plate	Cells	Kind of Seed
H 1077 B	2	Medium Corn
H 1336 B	2	Extra Small Corn (Bunching)
H 981 B	3	Small Corn
H 976 B	3	Medium Corn
H 1281 B	3	Large Corn
H 980 B	3	Extra Small Corn (Bunching)
p H 1282 B	3	Red Kidney and Large Navy Beans, Corn, Etc. (Bunching)
H 2045 B	4	Extra Small Corn
H 1283 B	4	Medium Argentine Corn
H 984 B	4	Spanish Peanuts, Garbanzo and Velvet Beans
H 1076 B	4	Small Corn
H 977 B	4	Medium Corn
H 982 B	4	Large Corn
i H 1284 B	4	Large Hickory King Corn
H 1314 B	4	Extra Small Corn (Bunching)
H 1285 B	4	White Southern Corn (Bunching)
H 1068 B	5	Medium Corn
i H 1069 B	5	Hickory King Corn
H 1257 B	6	Peas, Etc.
H 1286 B	6	Medium Argentine Corn
H 1288 B	6	Spanish Peanuts, Garbanzo and Velvet Beans
H 978 B	6	Medium Corn
H 987 B	6	Large Corn
i H 988 B	6	Hickory King Corn
i H 979 B	6	Large Hickory King Corn
H 1287 B	6	Florida Peanuts
u H 1290 B	8	Small Argentine Corn
H 2105 B	8	Extra Small Common Corn
H 1344 B	8	Medium Argentine Corn
H 1289 B	8	Spanish Peanuts, Garbanzo and Velvet Beans
H 2104 B	8	Medium Round Pointed Corn
H 965 B	8	Small Corn
H 788 B	8	Medium Corn
H 985 B	8	Virginia Red Peanuts
H 789 B	8	Large Corn
i H 1292 B	8	Hickory King Corn
H 1278 B	8	Florida Peanuts
H 1277 B	8	Thorburn Lima Beans and Osceola Velvet Beans
q H 1291 B	8	Extra Large Hickory King Corn
H 1355 B	8	Shelled Medium Jumbo Peanuts
p H 1319 B	8	Shelled Jumbo Peanuts
H 1293 B	9	Medium Corn (Triple Cells)
p H 1351 B	9	White Brazil Jack Beans (2 in a Cell)
H 1503 B	10	Medium Corn
H 1945 B	10	Extra Small Slender Hybrid (Alternating 2 and 3)
H 777 B	10	Small Corn (Alternating 2 and 3)
H 951 B	10	Medium Narrow Corn (Alternating 2 and 3)
H 778 B	10	Medium Corn (Alternating 2 and 3)
H 1294 B	12	Medium Argentine Corn
H 986 B	12	Spanish Peanuts, Garbanzo and Velvet Beans
H 2560 B	12	Medium Round Pointed Corn
H 966 B	12	Small Corn
H 948 B	12	Medium Corn
H 1296 B	12	Medium Corn (Triple Cells)

---

i Turn H685B False Plate Groove Side Up.
p Use with H1279B False Plate.
q Use with H1280B False Plate.
u Use with Y2630B False Ring or H1346B to Deepen Cells Slightly.

PLATES ON HAND

SEED PLATES—Continued

	Plate	Cells	Kind of Seed
	H 1297 B	12	Virginia Red Peanuts
	H 1318 B	12	Florida Peanuts
q	H 1295 B	12	Extra Large Hickory King Corn
	H 1356 B	12	Shelled Medium Jumbo Peanuts
q	H 1320 B	12	Shelled Jumbo Peanuts
p	H 1350 B	12	Garbanzo Beans (2 in a Cell) and White Brazil Jack Beans (1 in a Cell)
	H 1070 B	14	Medium Corn
u	H 2505 B	16	Popcorn
k	H 1260 B	16	Feterita, Milo Maize, Broom Corn, Etc.
n	H 1353 B	16	Tomato Seed
u	H 961 B	16	Spanish Corn and Small Popcorn
o	H 1263 B	16	Beet Seed (Thin Plate)
u	H 779 B	16	Popcorn, Etc.
o	H 1316 B	16	Extra Small Round Corn
s	H 1322 B	16	Extra, Extra Small Corn
	H 1085 B	16	Beet Seed (Thick Plate and Large Round Corn)
	H 698 B	16	Extra Small Crosby Sweet Corn
	H 1268 B	16	Small Crosby Sweet Corn, Extra Small Round Corn
	H 2295 B	16	Extra Small Round Pointed Corn
s	H 1345 B	16	Small Round Corn
	H 962 B	16	Large Crosby Sweet Corn, Golden Bantam Sweet Corn
k	H 1262 B	16	Cantaloupes and Cucumbers
	H 1265 B	16	Small Round Corn
	H 1931 B	16	Small Thick Round Corn
	H 1275 B	16	Medium Small Round Corn
s	H 1352 B	16	Extra Small Narrow Corn
2	H 697 B	16	Extra Small Corn
	H 1571 B	16	Extra Small Slender Corn
	H 1267 B	16	Medium Argentine Corn, Sweet Corn and Extra Large Corn
	H 1324 B	16	Large Navy Beans, Etc.
	H 1266 B	16	Medium Round Corn
	H 1071 B	16	Spanish Peanuts, Garbanzo and Velvet Beans and Large Round Corn
	H 1932 B	16	Medium Thick Round Corn
	H 2043 B	16	Small Round Pointed Corn
	H 1933 B	16	Medium Round Pointed Corn
/	H 699 B	16	Small Narrow Corn
u	H 964 B	16	Small Sweet Corn, Small Sunflower Seed
2	H 694 B	16	Small Corn
	H 1572 B	16	Small Slender Corn
u	H 1240 B	16	Extra Small Country Gentleman Tapered Sweet Corn
u	H 1238 B	16	Medium Shoe Peg Corn
	H 2503 B	16	Large Flat Slurry Treated Corn
	H 2504 B	16	Medium Flat Slurry Treated Corn
	H 955 B	16	Medium Narrow Corn
2	H 695 B	16	Medium Corn
u	H 1239 B	16	Medium Sweet Corn, Large Sunflower Seed
	H 2156 B	16	Long Thick Corn
u	H 780 B	16	Medium Country Gentleman Sweet Corn
	H 2044 B	16	Large Round Pointed Corn
	H 1006 B	16	Virginia Red Peanuts
	H 696 B	16	Large Corn
i	H 952 B	16	Hickory King Corn
u	H 963 B	16	Large Country Gentleman Sweet Corn
i	H 1005 B	16	Large Hickory King Corn

SEED PLATES—Continued

Plate	Cells	Kind of Seed
H 1299 B	16	Florida Peanuts
H 956 B	16	Thorburn Lima and Osceola Velvet Beans
H 949 B	16	Large Tennessee White Corn
q H 1298 B	16	Extra Large Hickory King Corn
p H 1321 B	16	Shelled Jumbo Peanuts
u H 781 B	20	Popcorn, Etc.
H 1300 B	20	Small Beans
H 2417 B	20	Extra Small Corn
H 782 B	20	Medium Argentine Corn, Sweet Corn, Etc.
H 954 B	20	Mexican Chile Beans, Soybeans (2 in a Cell) Frijole Beans, Etc.)
H 1315 B	20	Spanish Peanuts, Garbanzo and Velvet Beans
H 2419 B	20	Small Round Pointed Corn
H 2418 B	20	Medium Round Pointed Corn
H 2415 B	20	Small Corn
H 2438 B	20	Small Slender Corn
H 1258 B	20	Yellow Eye Beans, Golden Wax Beans, Etc.
H 2416 B	20	Medium Corn
H 2420 B	20	Large Round Pointed Corn
H 1254 B	20	Cranberry, Bayou, and Red Kidney Beans
H 1255 B	20	Red and White Kidney Beans (2 in a Cell) Soybeans
p H 2527 B	20	Soybeans, Heavy Planting
H 1084 B	20	Yellow Eye Beans (2 in a Cell)
H 1301 B	24	Pea Beans, Soybeans, Castor Beans, Small White Beans, Etc.
H 983 B	24	Peas, Large Soybeans, Etc.
H 2571 B	24	Extra Small Corn
H 1302 B	24	Small Corn
H 950 B	24	Medium Corn
H 2594 B	24	Long Thick Corn
H 2440 B	24	Medium Corn (For Ensilage)
n H 1256 B	25	Onion Seed (Machined)
H 1083 B	30	Beet Seed (Thick Plate)
H 2480 B	30	Yellow Eye Beans, Golden Wax Beans, Etc.
H 2441 B	40	Small Beans
u H 776 B	..	Blank Plate, 5/32" Thick (Holes can be drilled up to 1/4")
H 1303 B	..	Blank Plate, 5/16" Thick (Holes can be drilled up to 1/4")
k H 1211 B	..	Blank Plate, 5/32" Thick (Cells can be filed in edge)
n H 1259 B	..	Blank Plate, 5/32" Thick (Machined) (Cells can be cut in edge)

i Turn H685B False Plate Groove Side Up.
k Use with Y3313B False Ring.
n Use with AH306B False Plate and Y5055B False Ring.
o Use with H1264B False Plate.
p Use with H1279B False Plate.
q Use with H1280B False Plate.
s Use with H1323B False Plate.
u Use with Y2630B False Ring or H1346B to Deepen Cells Slightly.

FERTILIZER ATTACHMENT

The Fertilizer Attachment for the John Deere No. 290 Planter can be equipped with either a split boot type, or a disk opener.

The split boot type is available for placing a small quantity of fertilizer, as a starter application, on both sides of the seed.

The disk opener is available for placing a larger quantity of fertilizer to one side of, and either level with or below, the seed.

With either the split boot type or the disk opener, the fertilizer can be placed in a continuous band when drilling, or placed in a short band next to the hill when check-row planting or hill-dropping. Also, with the disk opener, the fertilizer can be placed in a continuous band when check-row planting or hill-dropping.

ATTACHING

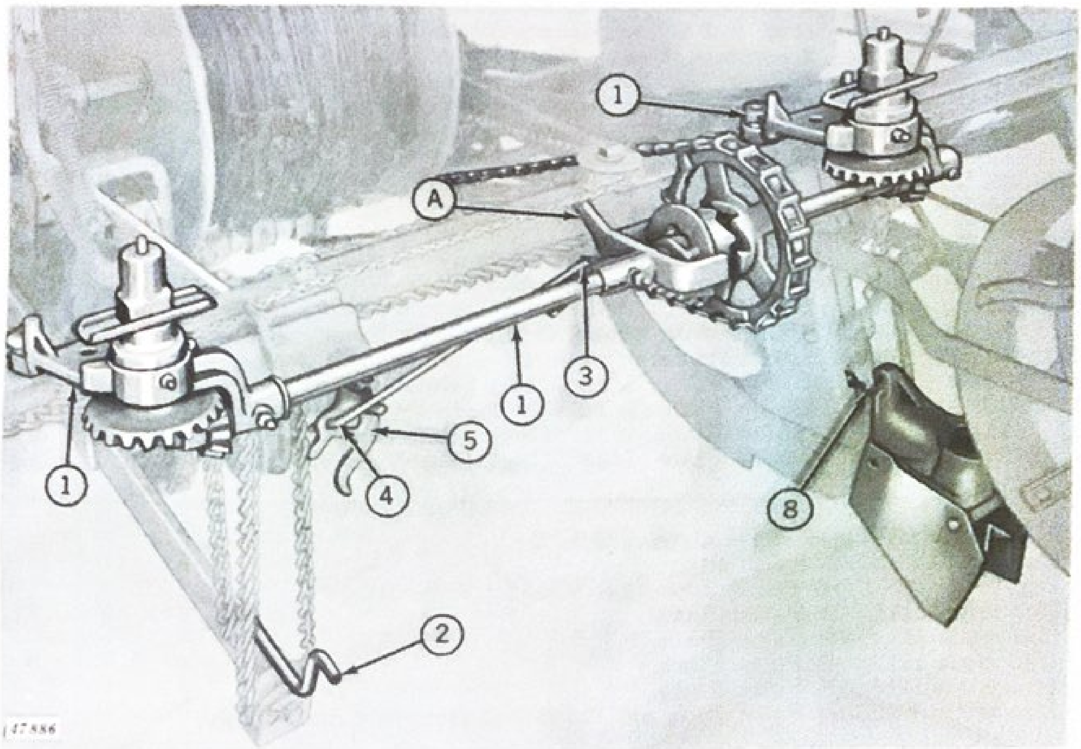


Figure 20

1. Attach the fertilizer drive shaft and hopper brackets. The clutch throw-out yoke "A," Figures 20 and 22, must rest on top of the planter frame.

NOTE: On planters with Serial No. below prefix letter "G," install adapters (Bundle No. 2986B) between hopper brackets and back frame of planter as shown in Figure 21. Also install a 7-tooth fertilizer drive sprocket (H2184B) on the counter drive shaft.

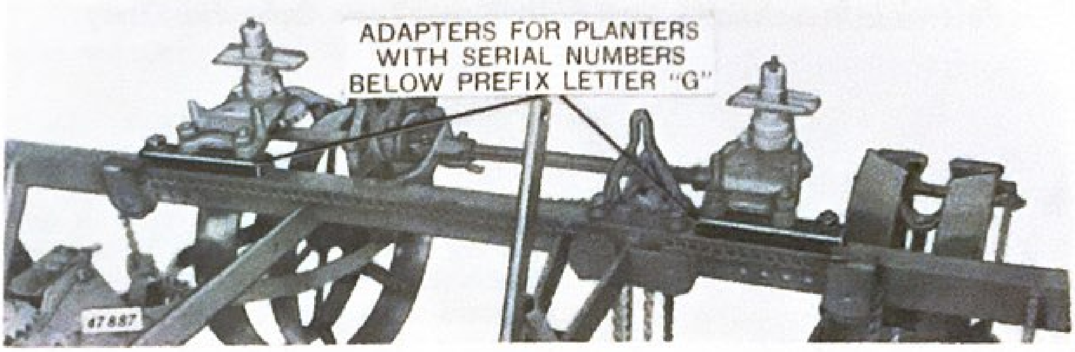

ADAPTERS FOR PLANTERS WITH SERIAL NUMBERS BELOW PREFIX LETTER "G"
47887

Figure 21

2. Bolt throw-out trip to power lift arm.

NOTE: This is not used on planters with Serial No. below prefix letter "G."

3. Install throw-out rod into clutch yoke.

4. Hook other end of throw-out rod into throw-out lever.

5. Attach throw-out lever to planter. Push the lever down to its lowered position, as shown, with the runners raised. When planter is lowered, throw-out trip will contact lever and throw fertilizer drive in gear.

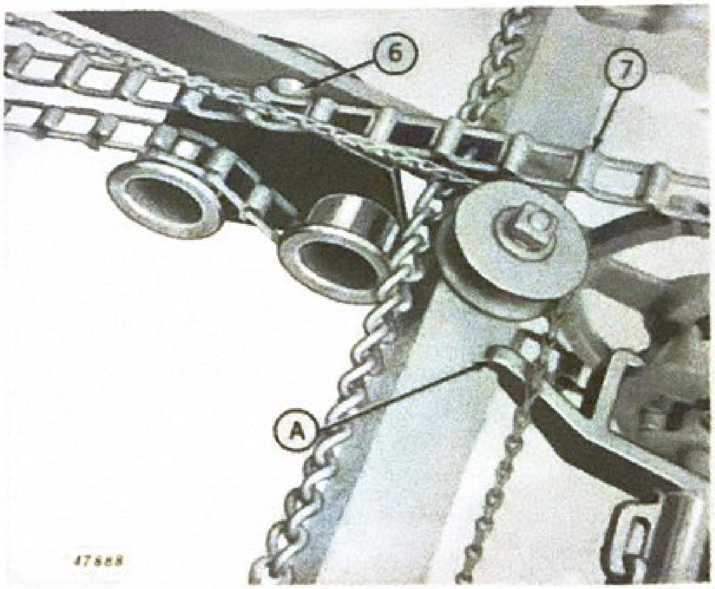
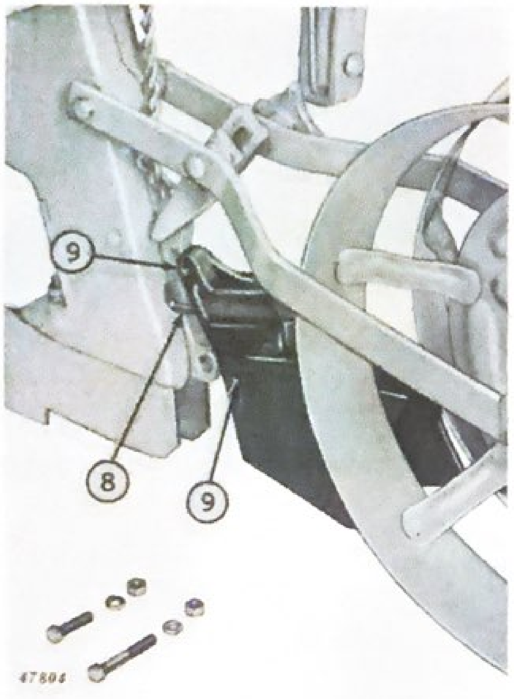


Figure 22

6. Attach fertilizer drive chain idler.

7. Install drive chain, running lower part over the top of front tightener and under the bottom side of rear tightener. Install chain with open end of chain pointing in direction of travel.

For Fertilizer Attachment with Split Boot-Type Openers Only.



8. Insert fertilizer valve link into opening at rear of shank. If the fertilizer attachment is installed on planters with Serial No. below prefix letter "G," it is necessary to open up the spring clip on the planter lower corn valve so that it will not clamp over ball at the end of fertilizer valve link.

9. Place fertilizer boot into position on shank and secure with two bolts.

Figure 23

For Fertilizer Attachment with Disk Openers Only.

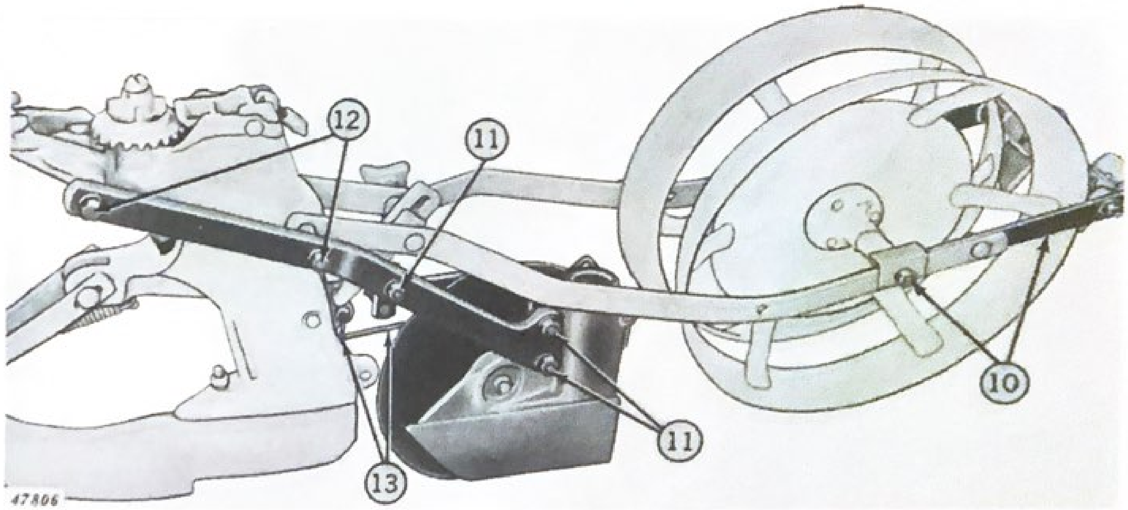


Figure 24

NOTE: The disk openers are right- and left-hand. For 30- to 34-inch row spacing, install the disk opener on the outside of each planter shank. For 36- to 42-inch row spacing, install the disk opener on the inside of each planter shank. Figure 24 illustrates how the disk opener is installed on the right-hand shank for 36- to 42-inch row spacing. In all cases the opener unit must be installed with the disk toward the planter runner.

10. Move press wheels to rear hole and install scraper extensions on inside of press wheel frames.

11. Attach disk and boot assembly, and scraper assembly to opener arm.

12. Install disk opener arm to planter shank.

13. Insert fertilizer valve link into opening at rear of planter shank and attach valve link holder.

14. Attach rear of valve link to valve link holder.

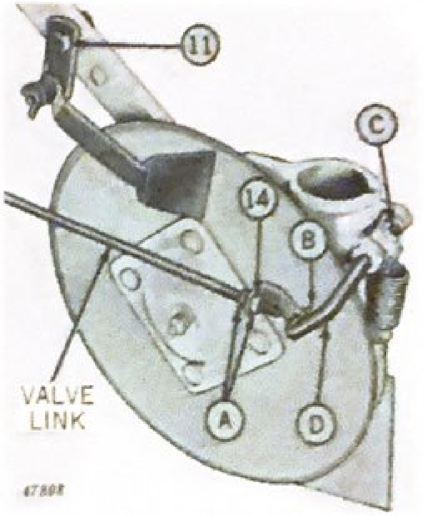


Figure 25

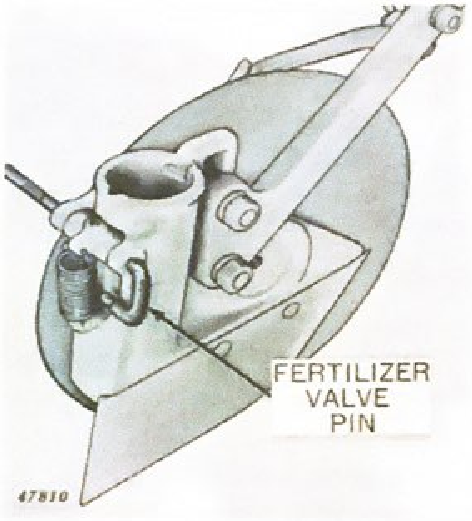


Figure 26

With planter valve in a closed position, adjust nuts "A," Figure 25, until fertilizer valve is completely closed.

To set Fertilizer Attachment with disk openers to drill the fertilizer in a continuous band when check-row planting or hill-dropping, proceed as follows:

Pull out pin "B," Figure 25, disconnect valve link holder, and completely remove valve link from planter.

Turn set screw "C," Figure 25, until fertilizer valve pin "D," can be removed.

Insert fertilizer valve pin, from the opposite side, all the way through the boot and fertilizer valve and position as shown in Figure 26.

Hold the valve open, by hand, and retighten set screw securely.

For All Fertilizer Attachments.

After all fertilizer boots are in place, trip check forks several times, to see that fertilizer valves work freely.

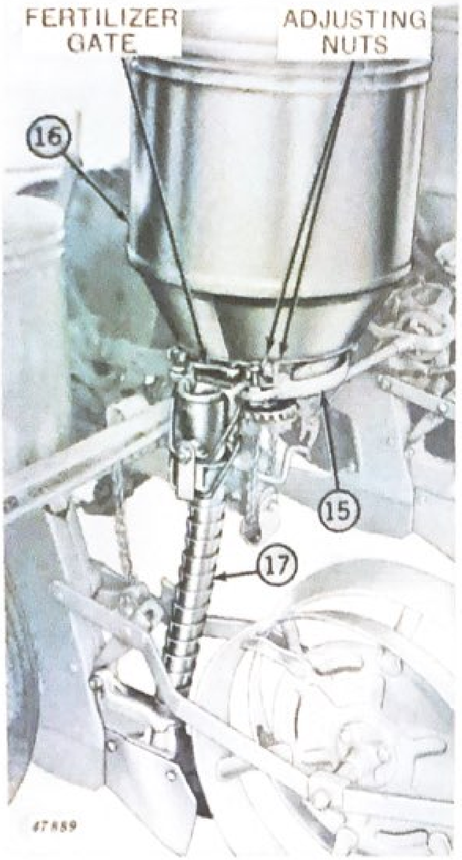


Figure 27

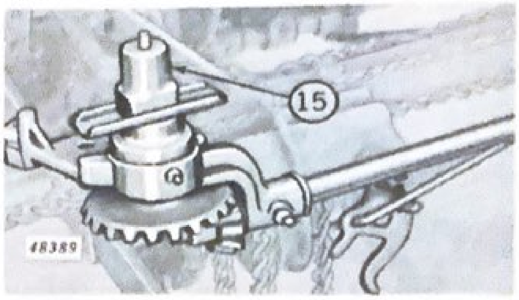


Figure 27A

15. Remove the drive nut and the drive lug, and attach hopper bottoms to hopper brackets with the openings for the spouts to the outside. Replace the drive lug and drive nut.

16. Place fertilizer hoppers on bottoms and tighten thumb nuts.

17. Attach the fertilizer spouts by first inserting lower ends in boots, then twisting spouts one or two turns before attaching upper end. This gives pressure on pins, locking spouts in place.

OPERATION

Distributing Large Quantities of Fertilizer.

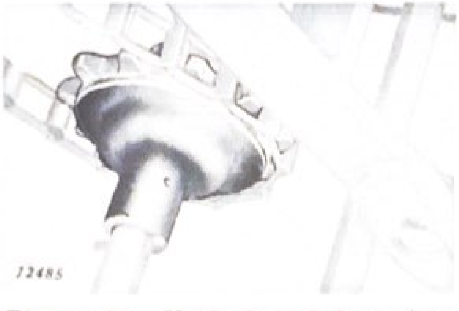


Figure 28—High-Speed Sprocket in Drive Position

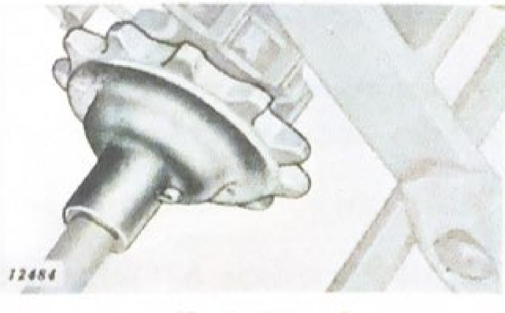


Figure 29—High-Speed Sprocket in Neutral Position

A special 11-point sprocket H2320B can be obtained to distribute fertilizer in large quantities. When this sprocket is used, it is placed over, and driven by, H2184B regular 7-point sprocket. Figure 28 shows the larger sprocket in driving position. Figure 29 shows the regular sprocket in driving position with the larger sprocket held out of the way with a cotter pin.

Operation of Fertilizer Attachment

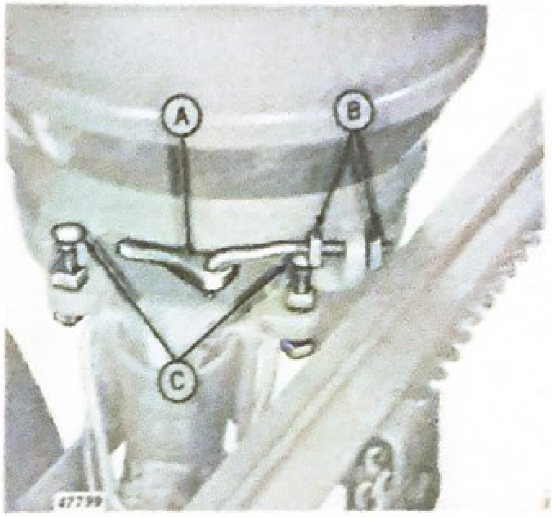


Figure 30

To regulate amount of fertilizer distributed, move fertilizer gate "A," Figure 30, in to increase amount distributed and out to decrease amount. Lock gate in position with lock nuts "B."

Carriage bolts "C" are adjusted correctly when fertilizer is shipped, but if it should be necessary due to wear, adjust carriage bolts "C" so that fertilizer hopper is lifted slightly by fertilizer feed plate spring tension before tightening hopper in place with wing nut. Do not make this too tight because the feed plate rotates against the bottom of the hopper. Keeping this adjustment correct, prevents leakage of fertilizer between plate and hopper bottom.

Remove fertilizer hopper and clean inside of can and the entire feed mechanism when through planting each day. When through planting for the season, clean and paint inside of fertilizer cans.

At least twice a day, grease the fittings on fertilizer hopper bracket and drive shaft. (See page 2.)

DOUBLE DISK FURROW OPENERS AND COVERING KNIFE ATTACHMENT

The 9-inch or 11-inch double disk furrowing attachment can be furnished for planting seed in shallow furrows. It pushes aside clods and kills weeds next to the row. The disks can be adjusted up or down on the planter shanks. This attachment is used extensively in regions when conservation of moisture is important. It can be quickly attached to the planter shanks and easily removed. The covering knives are used in conjunction with the double disk furrow openers to throw a loose blanket of soil over the seed. Install as shown in Figure 31. The covering knife attachment can be purchased separate by ordering bundle No. 3092B.

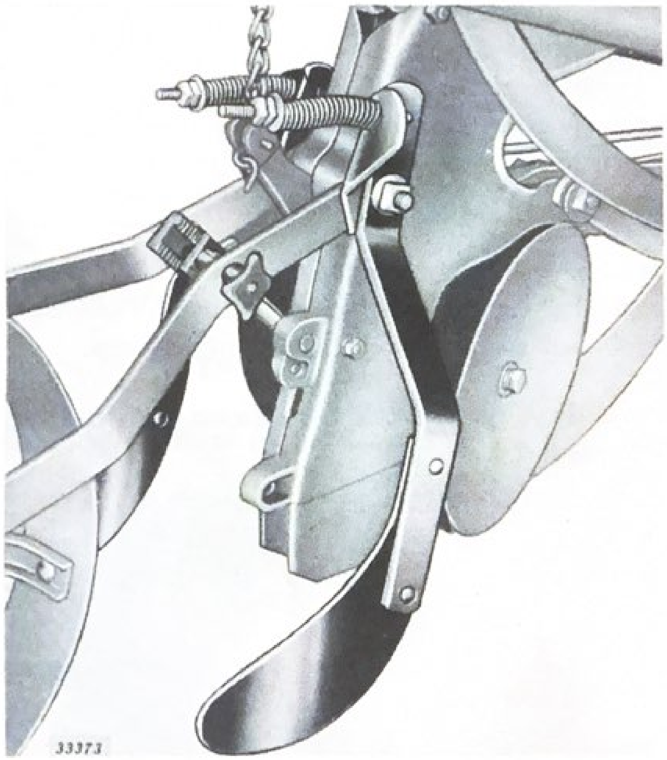


Figure 31

AUTOMATIC HILL-DROP ATTACHMENT

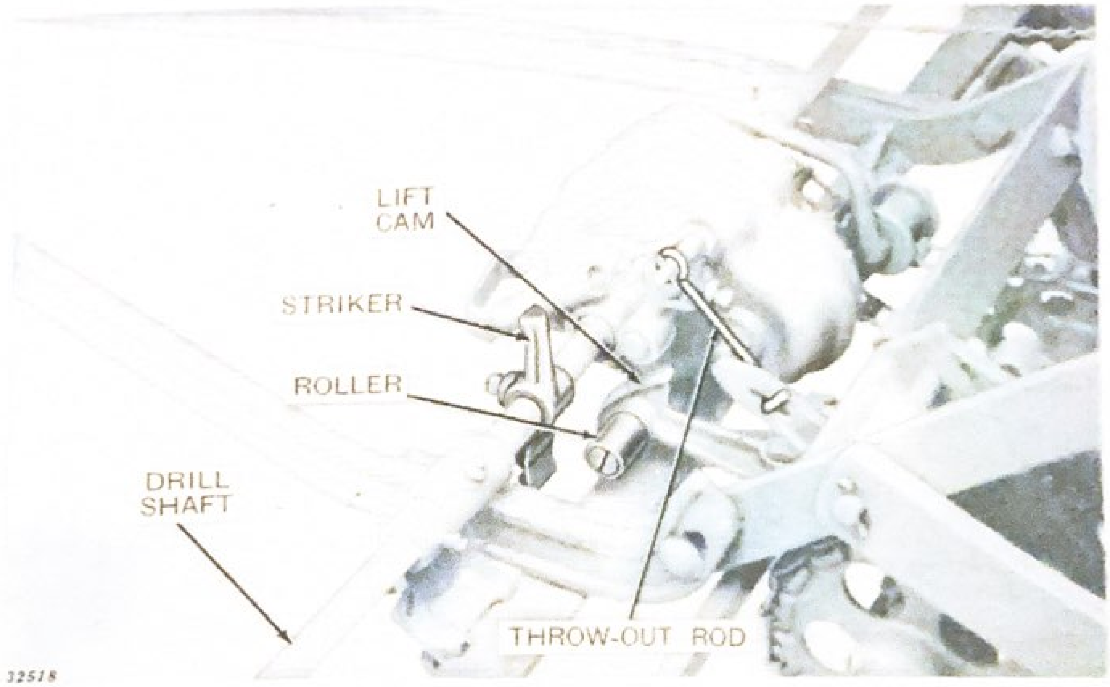


Figure 32

With this attachment, the seed can be planted in hills, but not in check. No check wire is needed. The planting is stopped and started automatically as the planting units are raised or lowered.

Installation.

Before attaching, see that the planter is in the raised position and the automatic throw-out casting is set in the position used for checking corn.

Attach throw-out rod between throw-out lever and clutch stop lever as shown in Figure 32.

Attach the roller and the striker as shown. When installing the striker, be sure the clutch stop lift cam, to which roller is attached, is in the lowered position and against front frame of planter. Move planter forward until drill shaft stops. Then set the striker so the arms point straight up and down as shown.

Operation.

The striker can be used either as a single striker or double striker by shifting its position on drill shaft. When single striker is used, it should be set so only the wide striker arm contacts the roller. When double striker is used, it should be moved closer to the gear case so both striker arms trip the roller.

The regular 16-cell plates that come with the planter will drop two kernels of corn per hill using the double striker and four kernels per hill using the single striker. To drop three kernels per hill, it is necessary to use a 12-cell plate with single striker. Plates can be furnished for planting various kinds of corn, beans, peas, etc.

HILLING DISTANCES OF AUTOMATIC HILL-DROP ATTACHMENT

When Automatic Hill-Drop Attachment is used, the variable drop shifting lever varies the distances between the hills, not the number of kernels per hill. The number of cells in seed plate and the adjustment of striker regulate the kernels per hill.

The table below gives the approximate hilling distances in inches for both single and double striker. Special 7-point sprocket No. H2498B can be furnished in place of H2106B regular 6-point drill shaft driven sprocket. This sprocket will increase these distances approximately 1/6. This 7-point sprocket should not be used when check row planting.

APPROXIMATE HILLING DISTANCES USING SINGLE STRIKER				APPROXIMATE HILLING DISTANCES USING DOUBLE STRIKER			
12-Cell Plate gives 3 kernels per hill 16-Cell Plate gives 4 kernels per hill				16-Cell Plate gives 2 kernels per hill 24-Cell Plate gives 3 kernels per hill			
SHIFTING LEVER	6-Pt. Sprocket	13-Pt. Sprocket	Special 15-Pt. Sprocket	SHIFTING LEVER	6-Pt. Sprocket	13-Pt. Sprocket	Special 15-Pt. Sprocket
Set on 2	125.0"	58.0"	50.0"	Set on 2	62.7"	29.0"	25.0"
Set on 3	83.5"	38.7"	33.2"	Set on 3	41.8"	19.3"	16.6"
Set on 4	62.7"	29.0"	25.0"	Set on 4	31.3"	14.5"	12.2"

SPEEDS RECOMMENDED WHEN HILL-DROP IS SET TO OBTAIN FOLLOWING DISTANCES

38.7" and over	5 M.P.H.	29.0" to 33.2" Inc.	4 M.P.H.
19.3" to 25.0" Inc.	3 M.P.H.	12.2" to 16.6" Inc.	2 M.P.H.

PEA ATTACHMENT (Bundle No. 3594B)

The John Deere pea and bean planting attachment enables you to plant peas and beans in the row with the corn.

It consists of a pea or bean hopper, special combination corn and pea cut-off plate, and pea or bean plates. The pea hopper fits inside the corn hopper; however, it leaves plenty of room for the corn seed.

This attachment can be quickly and easily inserted or removed. For planting soybeans or peas alone, special plates are furnished for the regular corn hopper.

STEEL WHEELS (Bundle No. 3902B)

John Deere Tractor Planters are equipped with wheels for mounting 6.40 x 15 or 6.70 x 15 rubber tires, but steel wheels can be furnished if desired.

GAUGE SHOE ATTACHMENT
(Bundle No. 3528B)

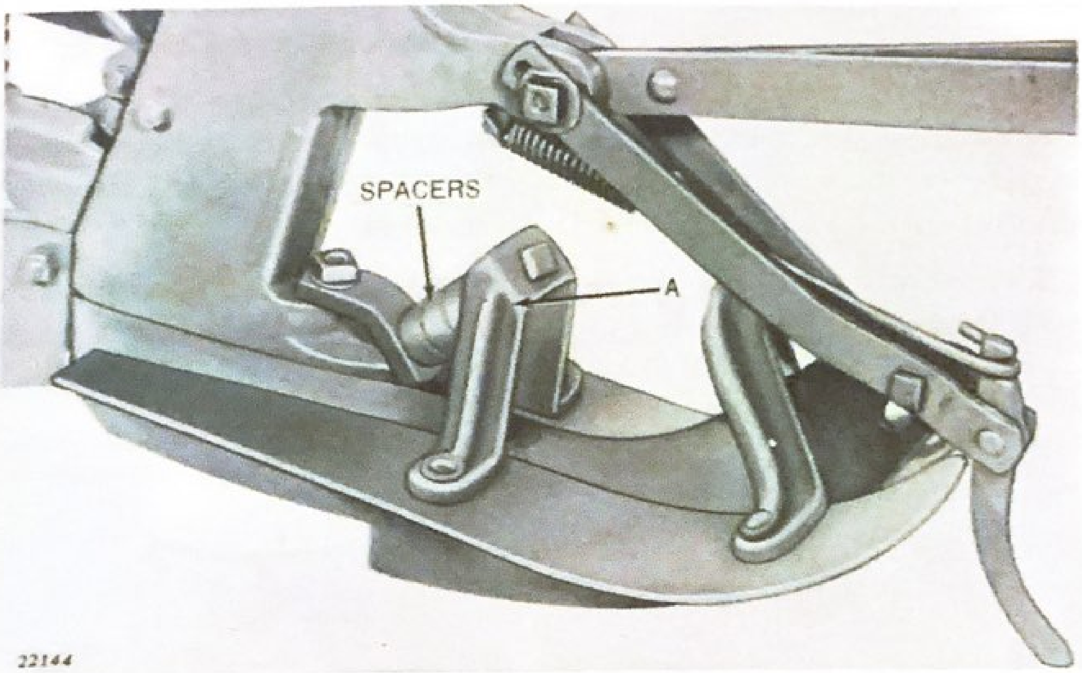


Figure 33

In extremely soft ground conditions more flotation of the planter runners can be obtained by using the gauge shoes.

Installation.

Take nut off bolt holding runner to shank and drop runner off shank. The gauge shoe can then be put in position shown in Figure 33. The rear of gauge shoe is held in place by same bolt holding runner to shank. Leave off flat steel washer. A new leather washer is sent with each gauge shoe in case old one is damaged.

The front of gauge shoe is held to the runner by a set screw. Regulate height of front end by moving set screw to different position on runner.

The adjustment of the rear of gauge shoe is regulated by the position of the spacers. Figure 33 shows the maximum height of the rear of shoe. To lower shoe move one or more spacers to top of casting "A," Figure 33.

ZERO PRESSURE
SEMI-PNEUMATIC RUBBER PRESS WHEEL TIRES

These tires can be purchased as extra equipment and are shipped four in a carton.

In wet sticky soil conditions, where the scrapers do not clean the wheels properly, the flexing action of the rubber tires sheds the soil and keeps the wheels cleaner. No scrapers are used with the tires.

They are attached to the wheels by stretching them over the steel rims much the same as an automobile tire, they require no cement and of course no air pressure. Attaching the tires is much easier if a tire soap is used on the tire as well as on the steel rims.

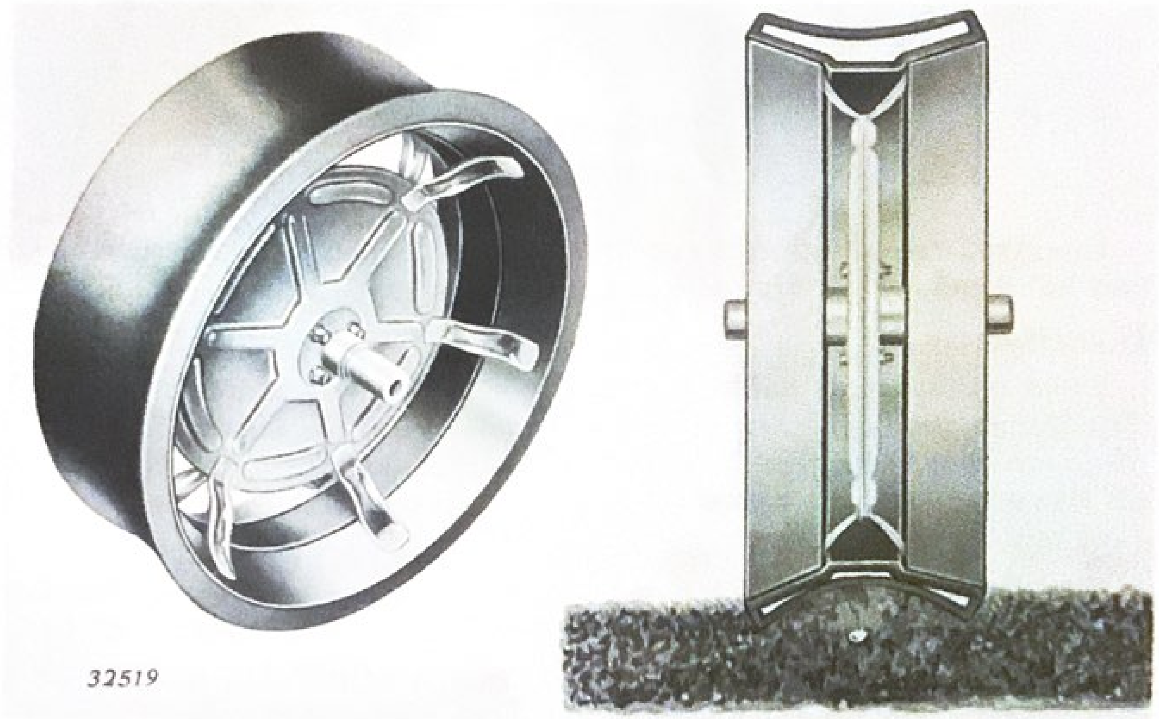


Figure 34

DOUBLE-DISK OPENER

This attachment consists of two flat 14-inch disks, and attaching parts, for each runner.

They work very well in trashy or stony field conditions because the disks will cut through or roll over obstructions.

The planter runner opener should not be removed when the disk openers are used.

Instructions for installing are shipped with the attachment.

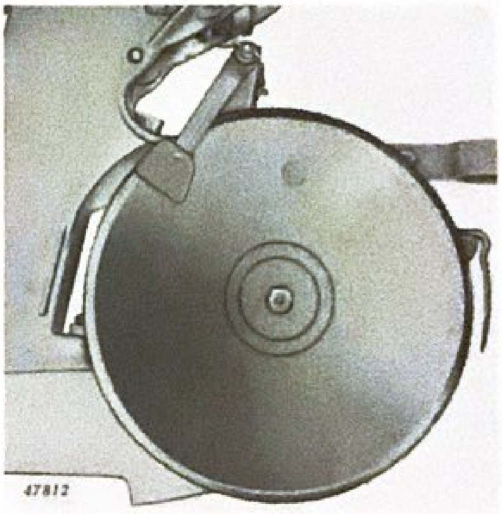


Figure 35

REMOTE CYLINDER ADAPTER

The Powr-Trol Adapter can be used on all No. 290 Planters with or without fertilizer attachments.

The Powr-Trol Adapter is furnished for hydraulic operation with John Deere Powr-Trol or the hydraulic system of any tractor using a remote cylinder that conforms with ASAE-SAE standards.

For Powr-Trol operating instructions, refer to the Tractor Manual which contains important instructions for operating and adjusting the Powr-Trol mechanism and for attaching or detaching hoses.

Transporting Planter.

The planter can be transported without the cylinder by pushing back as far as possible, the top of the pivot arm to which the piston end of cylinder attaches. This is done when the planter is in the raised position and immediately after cylinder is removed.

Do not hook lifting chains in notches on chain sheaves when cylinder is used.

Be sure the reel drive sprocket is disengaged.

CAUTION: Before operating planter, be sure to oil all pivot points of Powr-Trol parts.

Installing Powr-Trol Adapter and Hose Holder.

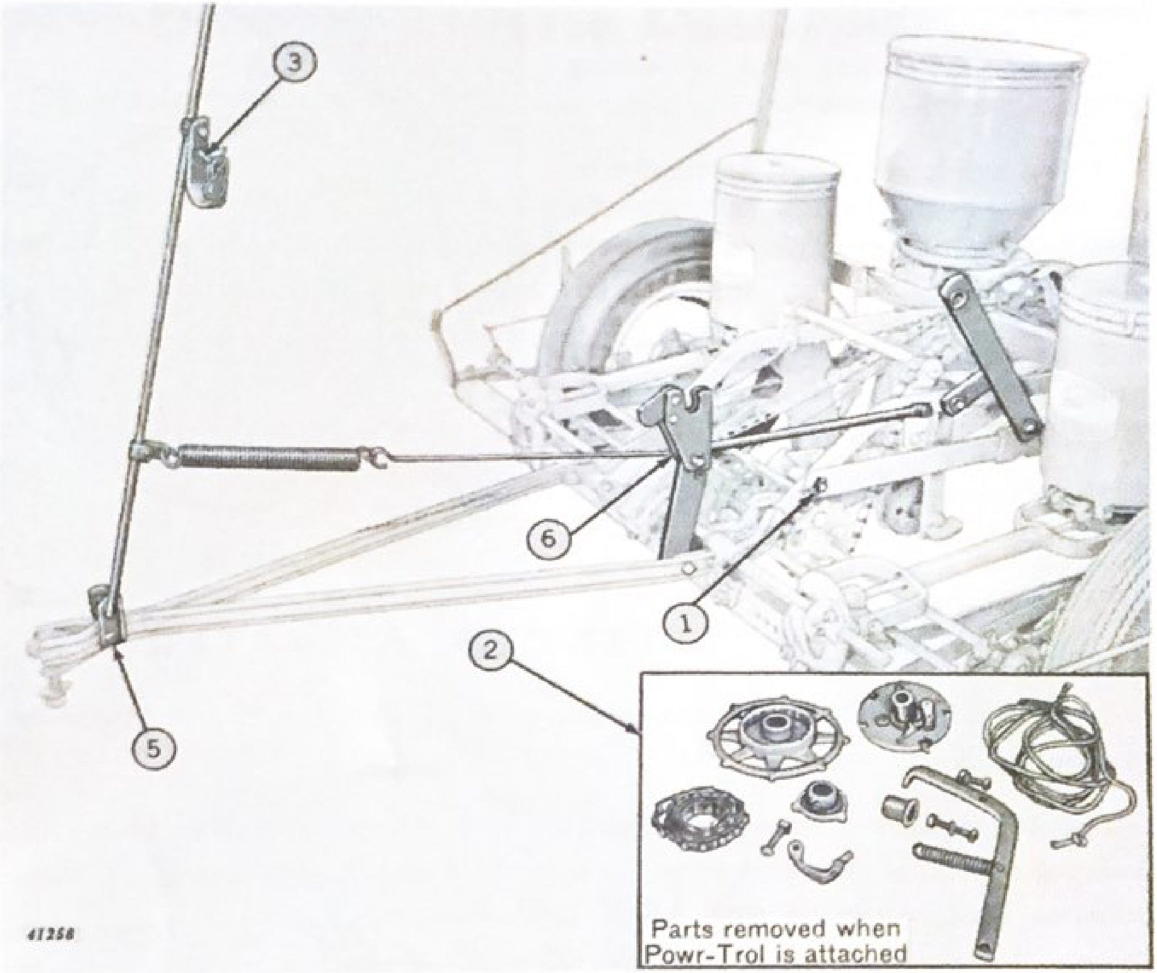


Figure 36

The Powr-Trol Adapter and Hose Holder is shipped complete in one bundle (No. 3448B) and is installed as follows:

Set planter in lowered position.

1. Remove lift arm pivot pin and slide lift arm from the lift clutch carrier. (Figure 36.)

2. Remove the following lift clutch parts: chain, sprocket, carrier, rope, throw-out latch, sprocket idler with bearing, throw-out lever with spring and machine bolt. (See inset, Figure 36.)

Replace the lift arm to original position with pivot pin.

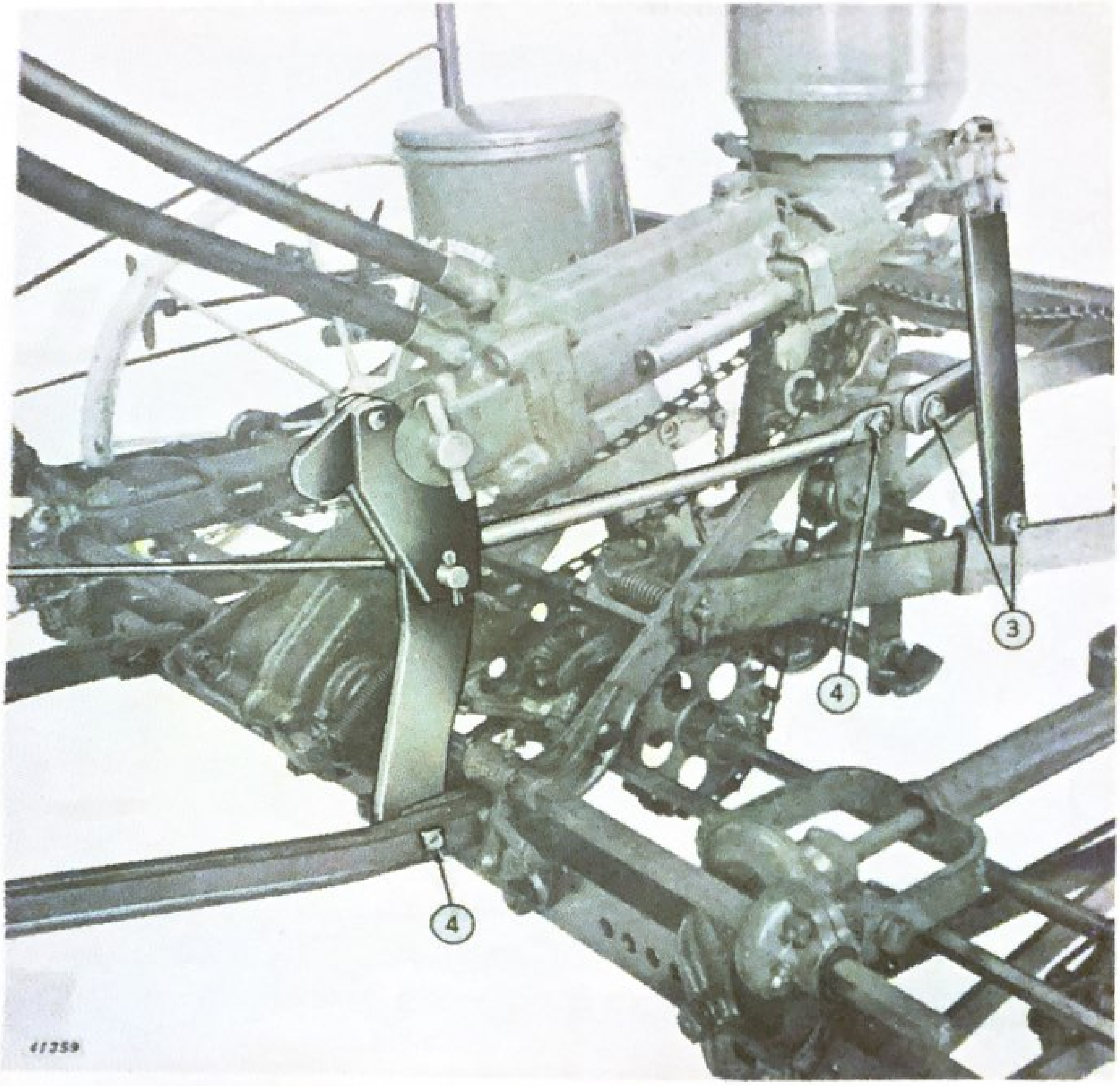


Figure 37

3. Attach pivot arm to cross member of frame and to lift arm. (Figure 37.)

4. Attach cylinder holder arm and brace rod. (Figure 37.)

5. Attach hose holder to planter drawbar. (Figure 36.)

6. Attach spring link hook to cylinder holder arm. (Figure 36.)

Installing Hydraulic Cylinder.

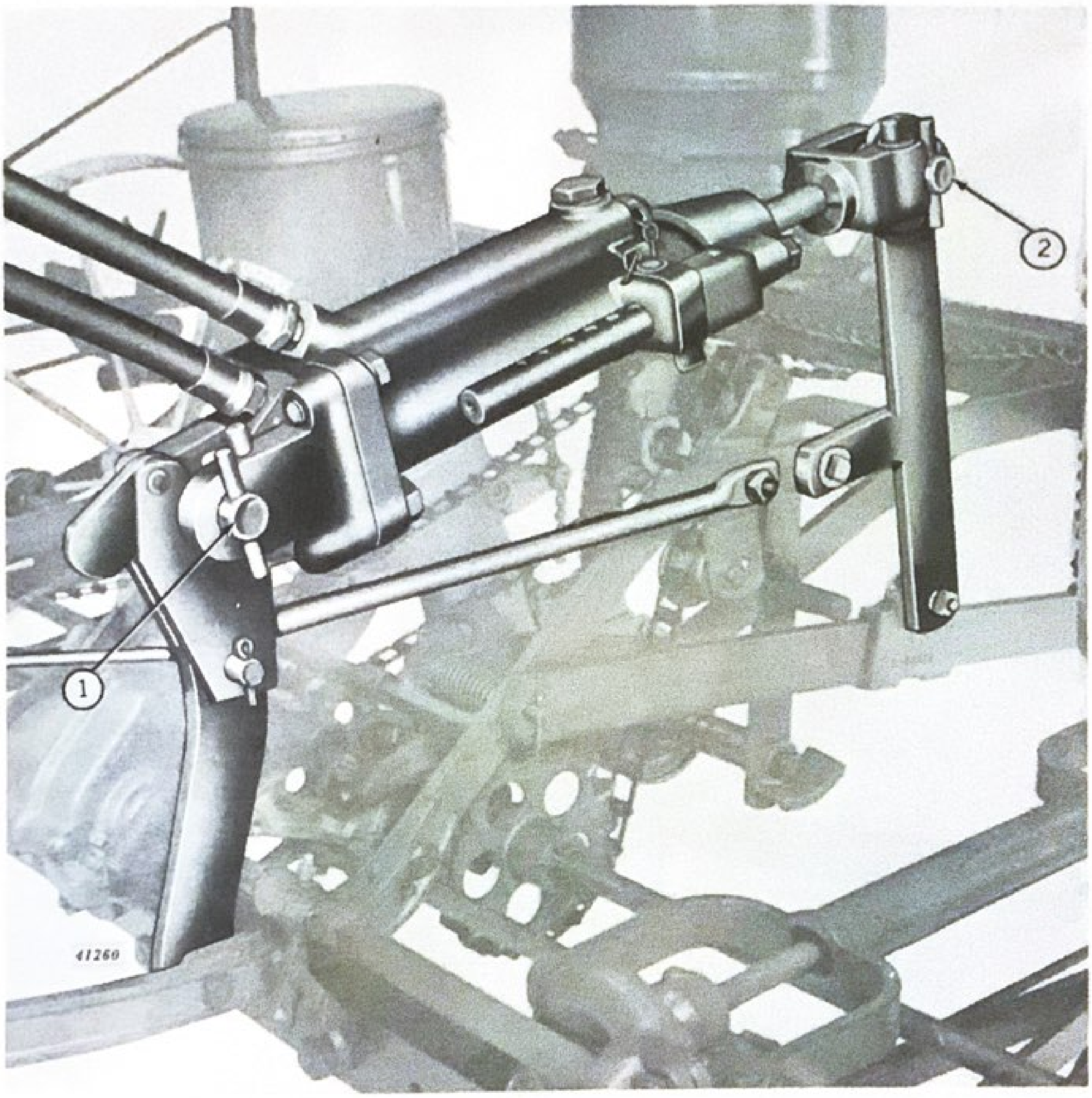


Figure 38

Attach planter to tractor drawbar.

1. Place front end of hydraulic cylinder into cylinder front support. (Figure 38.)

2. Attach piston end of cylinder to pivot arm. (Figure 38.)

3. Remove cotter and pin from hose holder and place hoses in hose holder. Replace pin and cotter. (Figure 36.)

SPRING PRESSURE ATTACHMENT

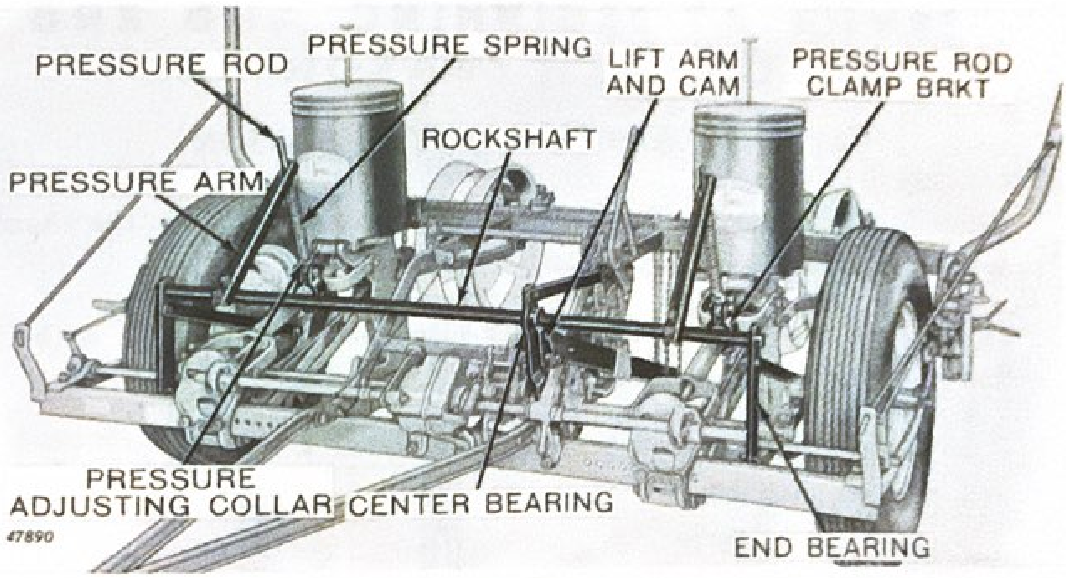


Figure 39

The spring pressure attachment is used where it is difficult to get desired penetration because of soil conditions.

No additional load is placed on the planter lifting clutch because pressure is applied on the lowering cycle by means of a cam action. This attachment does not destroy the flexibility of the planter.

The attachment is shipped complete in one bundle No. 4112B. Instructions for installing are included in this bundle.

SAFETY SUGGESTIONS

Care should be exercised during the operation of the No. 290 Corn Planter. The following rules, if followed, will help prevent injury to the operator and his assistants.

Do not oil, grease, or adjust a farm machine that is in motion.

Only one person—the operator—should be permitted on the tractor platform when tractor and planter are in operation.

Never ride, or permit others to ride, on the drawbar of the tractor or planter, or on the front of the planter.

Take the tractor out of gear when tightening planter drawbar ball and arm on tractor drawbar.

Finally, remember this: An accident is usually caused by someone's carelessness, neglect, or oversight.

SERVICE

SERVICE AT BEGINNING AND END OF EACH SEASON

AT THE BEGINNING OF THE SEASON

Cleaning.

Clean planter thoroughly. Be sure there are no obstructions in the shanks to keep valves from operating properly.

Inspect seed hopper bottoms, making sure nothing interferes with the action of the cut-off tongues and roller knockers.

If fertilizer feed plates and bottoms were oiled when the planter was stored, wipe all parts dry.

Lubrication.

Grease and oil planter thoroughly. Be sure gear case has oil added if necessary. See lubrication chart on Page 2.

Check and tighten all nuts and bolts. Replace any worn or broken parts, if this was not done when planter was stored. If planter is equipped with rubber tires, check tire pressure (18 pounds pressure).

AT THE END OF THE SEASON

At the end of each season, the planter should be cleaned and greased and an inspection made for worn or broken parts. Order needed replacement parts or make necessary adjustments at once. This will avoid endless delays when the next planting season arrives and will assure you that your planter is ready to give satisfactory performance. Proper care will add years to the life of your planter.

If planter has a fertilizer attachment, feed plates, fertilizer hopper bottoms, spouts, and boots should be cleaned and oiled to prevent rust. The life of the fertilizer hoppers will be greatly increased if they are painted on the inside.

If the planter does not have protection from the weather, cover with canvas or other suitable material.

If the tires are to be left on the planter, store so tires do not touch the ground.

RUNNER ADJUSTMENT

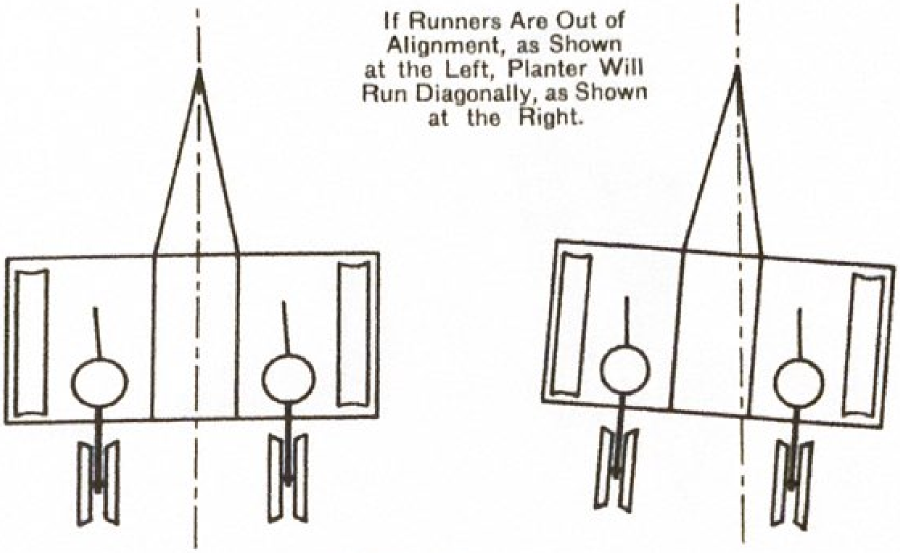

If Runners Are Out of Alignment, as Shown at the Left, Planter Will Run Diagonally, as Shown at the Right.
12616

Figure 40

The runners act as rudders and, if out of alignment, will cause planter to run diagonally, resulting in a poor check. Figure 40 is an exaggerated example of misaligned runners. At the left, the planter has been stopped squarely behind the tractor. On the right, the planter has started moving forward. Notice the sideway position of the frame. Turning with the planting units lowered could cause the condition shown in Figure 40.

To properly line up the runners, loosen bolts holding runners and runner braces, set runners at right angles to planter's front frame, and tighten bolts

ROCKER SHAFT BEARINGS

Whenever replacing a rocker shaft journal or bearing, refer to Figure 41. Notice how lug "A" in journal must be lined with groove "B" in journal bearing, before it can be taken apart or assembled. After inserting journal, turn approximately one-half turn so it cannot work out of place.

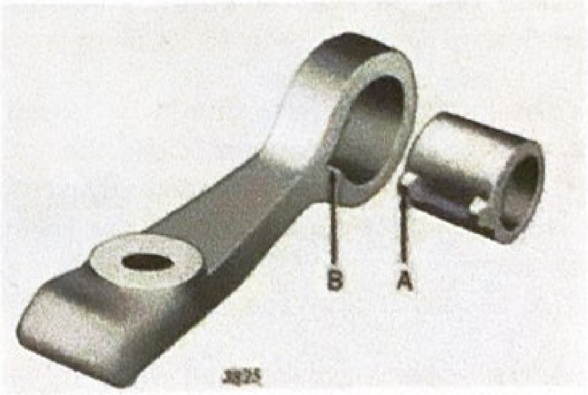


Figure 41

LIFTING MECHANISM

To test operation of lifting mechanism, jack up one wheel of planter and raise and lower planting units by turning the ground wheel by hand. Be sure the lifting chains are not twisted and that chain sheaves and slide casting H2177B are well lubricated. (Slide casting should be greased with planter in lowered position.) If row width of the planter is changed, follow the above precautions before going into the field.

VALVE ADJUSTMENT

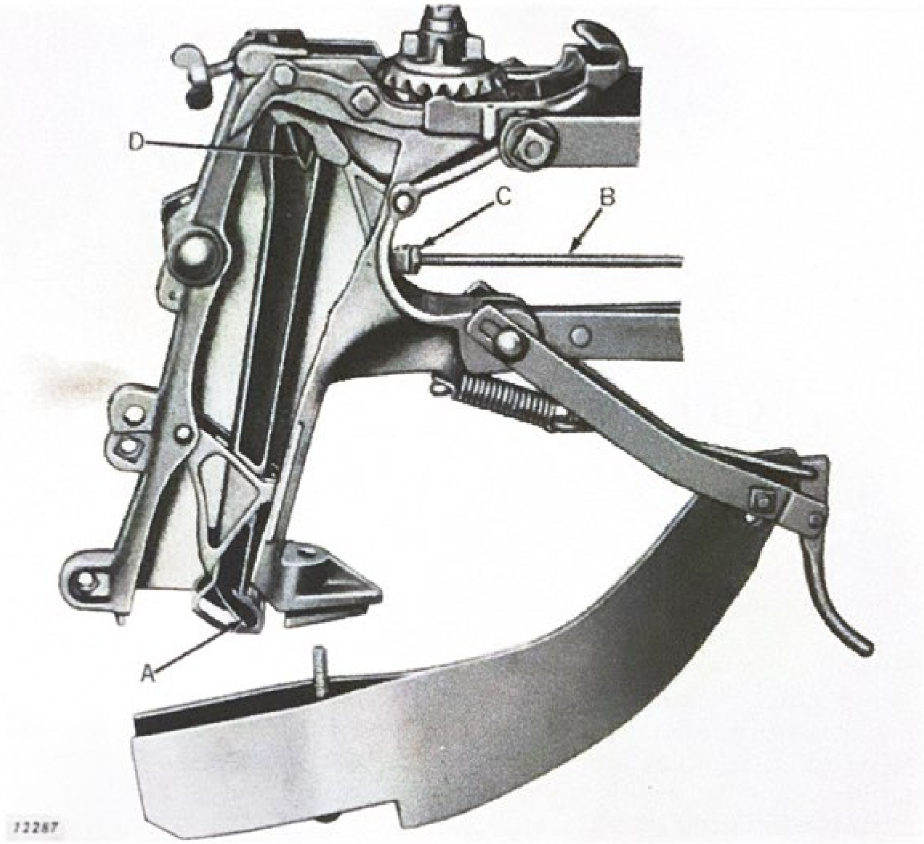


Figure 42

The valves are adjusted properly at the factory and it should be unnecessary to adjust them when setting up the planter. However, if it is necessary at any time to adjust or replace the valves, proceed as follows: Detach rear part of the runners as shown in Figure 42, and be sure the clutch stop lift cam is seated on front frame next to gear case (see Figure 11).

The lower valve gate should be closed at point "A," Figure 42. If lower valve is open at this point, close the valve gate by lengthening valve pull rod "B," by means of threaded adjustment and lock nuts "C." To do this, it is necessary to remove pin at the front end of valve pull rod. Shortening the valve pull rod will open the valve gate in case the gate is closing too tight. If valves close too tight, they will be subjected to undue strain.

After adjusting valve pull rod "B," be very careful to keep rod in perfect alignment for the pin that connects it to the rocker shaft, when tightening lock nuts "C." The upper valve should automatically close correctly if the lower valve is set right, as shown at "D." If upper valve does not close properly when lower valve is closed, loosen the two bolts holding upper valve spout and adjust. Be sure to tighten bolts after adjustment is made (see Figure 42).

TIMING THE PLANTER

The only places on the No. 290 Planter that need to be timed are the gears located under the hoppers, on the front sill bar brackets and in the gear case. These gears are all properly timed at the factory, but if for any reason any of these gears are removed from the planter, it is essential that they are correctly timed when re-installed.

Timing of Gears Under the Hoppers.

Figure 43 shows the gears under the hoppers properly timed. The timing marks should line up every other revolution of the small pinion gear.

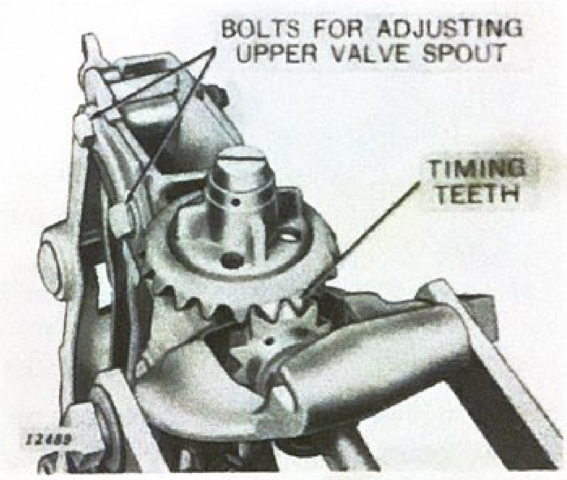


Figure 43

Timing of Gears on Front Sill Bar Bracket.

Figure 44 shows the timing teeth that must be together when the gears are installed on front sill bar bracket. It will be helpful to mark the timing teeth on both gears with chalk so they can be more easily seen. Here also the timing marks line up every other revolution of small pinion gear.

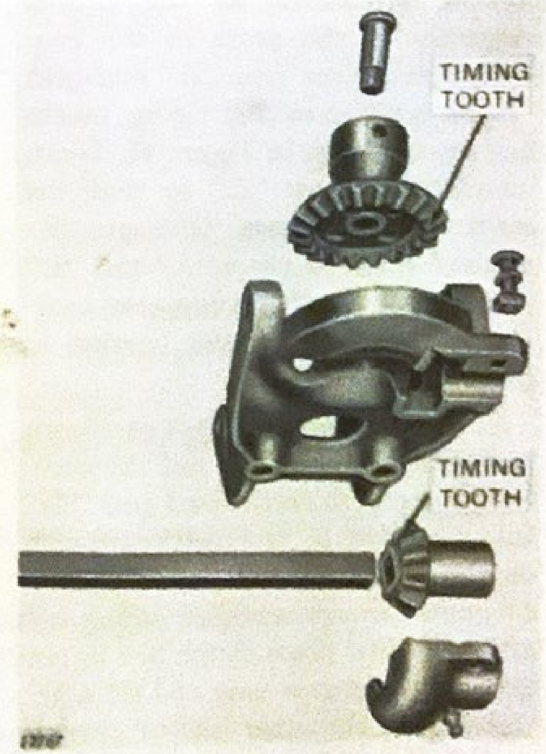


Figure 44

TIMING OF GEARS IN GEAR CASE

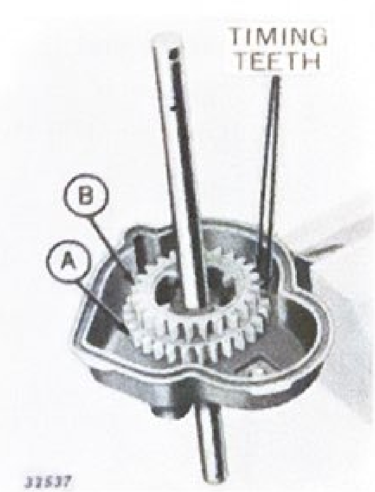


Figure 45

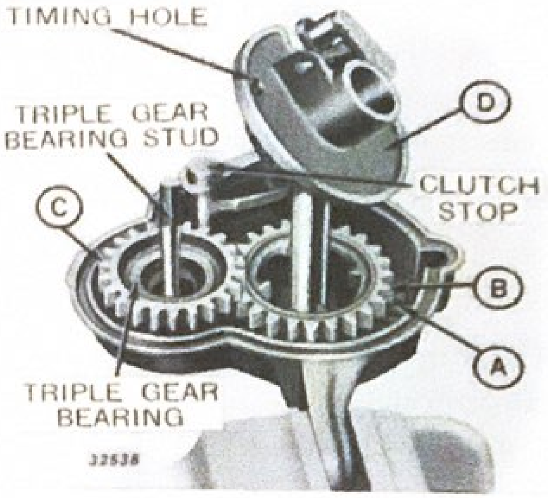


Figure 46

If it is ever necessary to replace or time gears, place gear case in a vise, as shown in Figure 45.

Figures 45, 46, and 47 show the correct procedure in the proper assembly of the gears in the gear case. First, place gear "A" and gear "B" in position so that timing marks line up as shown in Figure 45. Next, install triple gear "C" so that the marked tooth goes between the marked teeth on gears "A" and "B" (see Figure 46). Put triple gear bearing stud and triple gear bearing in place.

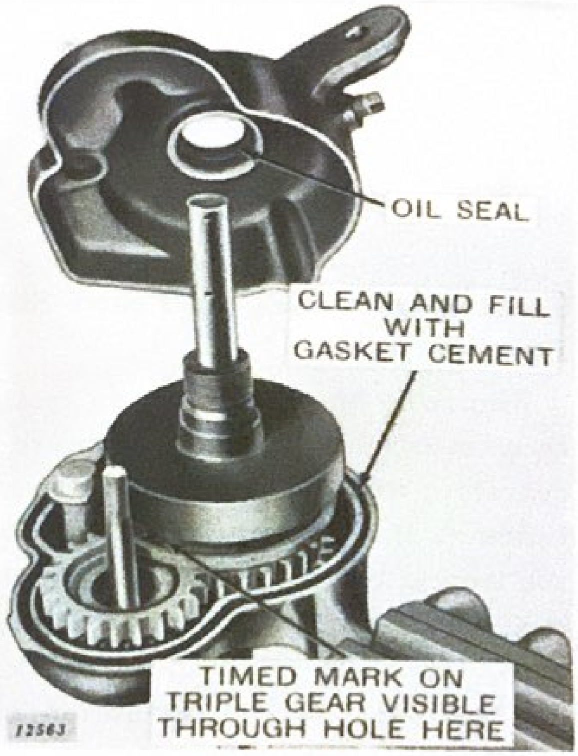


Figure 47

Slip clutch stop in place as shown in Figure 46, and then put the combination clutch carrier and gear "D" into position so the marked tooth on the triple gear is sighted directly through the center of the timing hole in the clutch carrier. (See Figure 46, and 47.) Now place clutch bell in position as shown in Figure 47. Clean the groove in the gear case and fill with a good grade of gasket cement before putting on the other half of gear case. The use of a little gasket cement under the nuts on each end of the triple gear bearing stud will eliminate oil leakage at those points. BE SURE not to damage oil seal when installing gear case half over clutch bell hub.

CAUSES FOR COMMON DIFFICULTIES ENCOUNTERED WHEN PLANTING

1. Inaccurate Drop:

A —Poorly graded corn.

B —Wrong seed plates.

C —False ring turned wrong side up or wrong false ring used.

D —Planter out of time. (See Pages 43 and 44.)

E —Alternating plates used with variable drop set on 2 or 3.

F —Cut-off or knocker worn or not working freely.

G —Seed interfering with proper action of cut-off and roller knocker. (Seed may drop into cut-off and knocker housing, if hopper is inverted when changing seed plates.)

H —Chain on wrong sprocket or too loose.

I —Weak rocker shaft spring.

J —Valves out of adjustment. (See Page 42.)

K —Obstruction in shank.

L —No oil in gear case or too heavy oil used. (See Page 3.)

M—Planting too fast. (See Pages 11 and 32.)

N —Checkhead rods and check forks not adjusted properly. (See Pages 12, 13 and 17.)

2. Poor Cross-Check:

A —Checkhead rods and check forks not adjusted properly. (See Pages 12, 13 and 17.)

B —Improper handling of wire or anchor stake. (See Page 12.)

C —Checkheads or hitch set wrong. (See Page 13.)

D —Valves out of adjustment. (See Page 42.)

E —Rocker shaft, valves, or valve pull rods binding.

F —Weak rocker shaft spring.

G —Check forks pinched together or too far apart. (See Page 17.)

H —Bad kinks in checkrower wire.

I —Runners bent or out of alignment. (See Page 41.)

J —Front frame twisted or bent.

K —Planting too fast. (See Page 11.)

L —Planter not uniform distance from stake when setting stake.

M—Planter not square with row when setting stake.

N —Too much side draft on marker.

2. Poor Cross-Check—Continued:

O —Planter carrying wheels running at edge of tractor wheel marks.

P —Combination of several of the above causes.

3. Scattering Out Hills of Corn:

A —Checkhead rods and check forks not adjusted properly. (See Pages 12 and 17.)

B —Planting too fast. (See Pages 11 and 32.)

C —Valves set wrong. (See Page 42.)

D—Weak rocker shaft spring.

E —Rocker shaft or valves binding.

F —Fertilizer boots clogged because of high hitch.

G —Check forks pinched together. (See Page 17.)

H—Kinks in checkrower wire.

I —Worn runner openers.

J —Trashy soil, roots, or grassy conditions.

4. Planter Jerking or Catching:

A —Bad buttons on wire.

B —Checkheads, forks, or wire rollers worn.

C —Chain too loose.

D—Wire catching in tractor wheel.

E —Wire picks up roots or trash.

5. Planter Misses Sets of Hills:

A —Clutch not engaging properly.

B —Clutch stop movement not enough to let dog engage clutch bell when forks are tripped because of loose checkhead rods or check forks.

C —Roller on clutch stop lever loose or worn. (See Figure 11.)

D—Clutch dog spring weak or broken.

6. Planting More Corn in Some Rows than in Others:

A —Seed interfering with proper action of cut-off and roller knocker. (Seed may drop into cut-off and knocker housing if hopper is inverted when changing seed plates.)

B —Cut-off tongue worn or out of position.

C —Weak or broken cut-off spring.

D—False ring turned wrong side up.

E —Wrong seed plate or false ring in one hopper.

F —Warped false ring.

G —Hopper not clamped down tight.

ASSEMBLY

Stand the large crate containing the planter on its side with the gear case of the planter down. Cut all the wires holding crate to planter frame. Cut all the wires and bands holding the miscellaneous parts, such as pressure wheels, ground wheels, planter hitch, anchor stakes, etc., to planter frame and remove all of these parts from the crate. Remove the hubs, sprockets and axles from the planter frame and install in wheels. (Also install tires to wheels. Either 6:40 x 15 or 6:70 x 15 tire sizes can be used.) Attach wheels to planter frame with sprockets to the inside. Be sure wheel sand caps have open side down when planter is in operating position.

Tip the planter back on its wheels and then remove the seven bolts which hold the crate to the planter frame. (These bolts are later used to attach the planter hitch and marker disks.)

The remaining part of the crate can now be removed from the planter. Install drive chains so that open end of the chain is pointing in the direction of travel.

1. Place the checkhead on the outside of frame, using third hole from front (see detail in Figure 48).

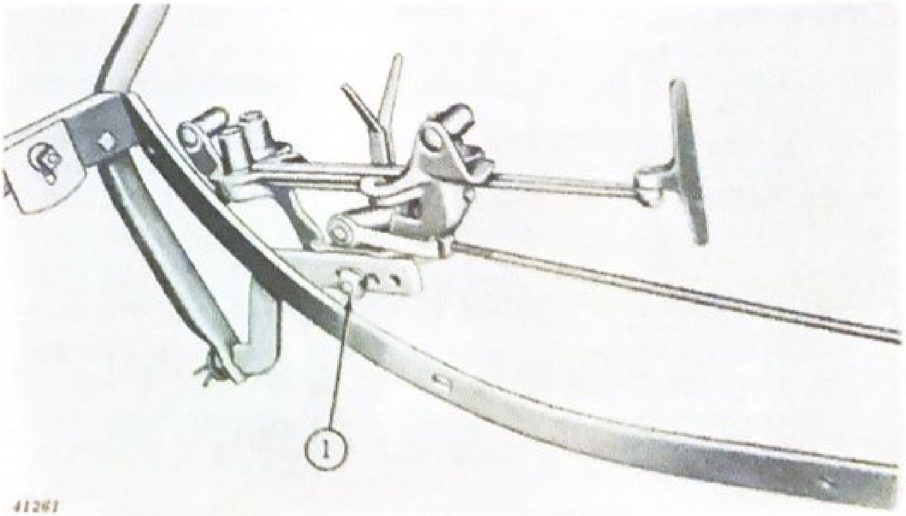


Figure 48

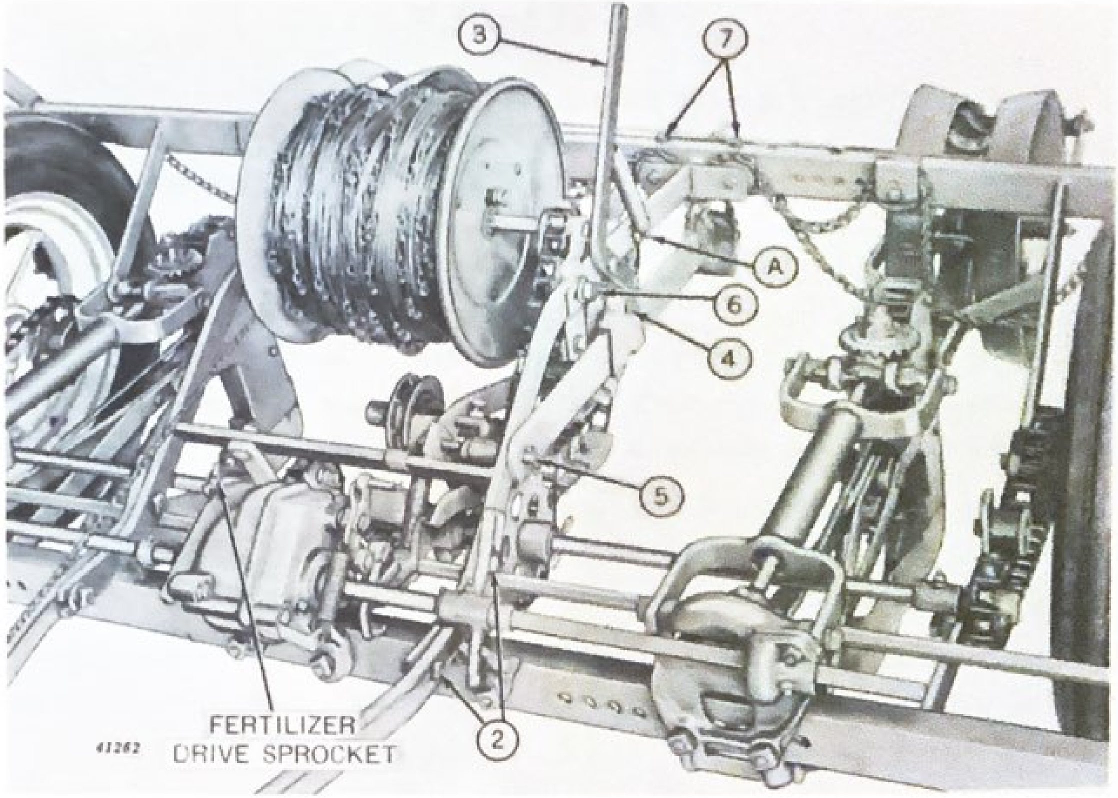


Figure 49

Paragraphs 2 through 7 refer to Figure 49.

2. Attach hitch using second pair of bolts removed from frame crate.

3. Place the lifting clutch trip lever in the upright position and hook the lower end of spring into the hole in end of bolt at "A." Tie trip rope to trip lever.

4. Attach lift clutch crank casting to crank pin of lift clutch.

5. Attach the lifting arm to holes in frame by means of pin.

It is necessary that drilling device be set for checking as shown in Figure 49, when doing this.

6. Loosen bolts and turn the reel bearings up in position as shown. Put the reel in place with the end of wire leading off the top of reel and pointing to the rear.

7. Bolt marker control in place on back frame by means of two bolts (see Figure 8).

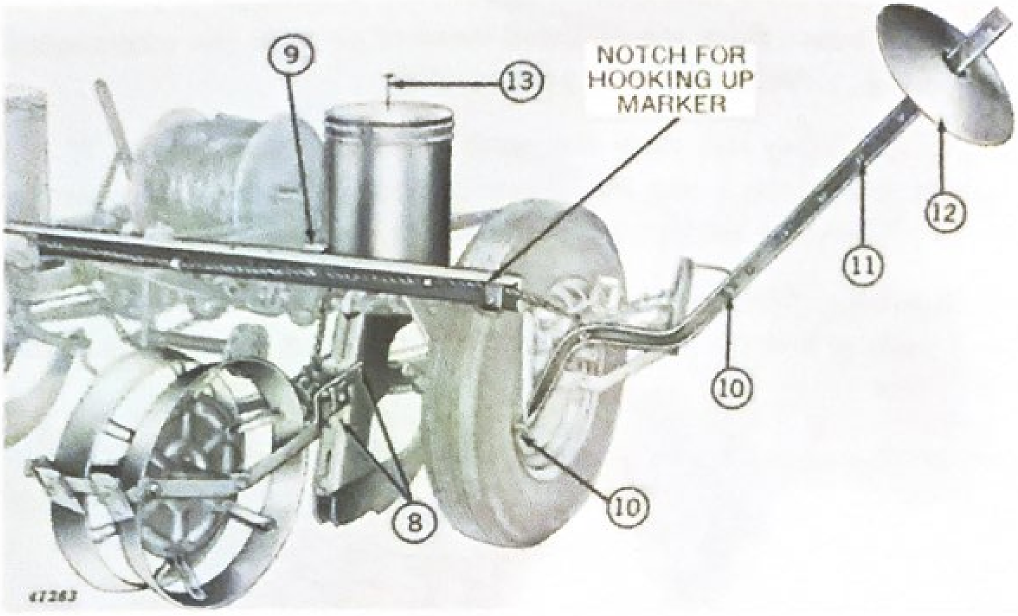


Figure 50

Paragraphs 8 through 13 refer to Figure 50.

8. Install press wheels as shown in Figure 50. To regulate the depth of planting, loosen the hand nut and move the press wheel frame up or down is desired. This adjustment should be made in the field.

9. Raise planting units and hook lifting chains in transport position. This is done by sliding a link of the chain into the notch in top of chain sheave housing as shown. Now pull trip rope and move planter forward until power lift is in the lowered position.

10. Attach the markers by attaching marker arm to rear frame and marker rod to front bracket. The rod is inserted into hole in bracket FROM THE REAR. Attach rear end of marker rod to marker arm. Be sure marker lift chain is not twisted.

11. For 30-, 32-, 34-, and 36-inch rows, the marker arms H2283B Right and H2284B Left must be cut off 7/8-inch outside the center of fourth hole from end of marker arms. After arms are cut off, if planter is to be used for row widths above 36 inches, Marker Arm Extensions (Bundle No. 3093B) must be purchased. The holes in marker arm indicate the different row settings of marker disk starting with 30 inches and running up to 42 inches.

12. Attach marker disks with bolts first removed from crate. It is shown set for 40-inch rows. A small set screw makes it possible to adjust angle of disk.

13. Attach the hoppers, installing proper seed plates for seed to be planted. Install seed gauge rod through the hopper lid from the top. Seed gauge with bent corners down, is held to threaded end of rod by a nut on each side of gauge.

PARTS LIST

Exploded Views. From the exploded views of parts in the pages which follow, it is easy to find any part or part number.

The exploded views also show the order of assembly of parts. If it is necessary to disassemble a unit for replacement of parts, be sure parts are assembled properly for satisfactory performance.

Key Number. Each part has been given a key number which is used only as a guide to find the part number. Do not use the key number when ordering parts.

When purchasing parts from your John Deere dealer, give the following information:

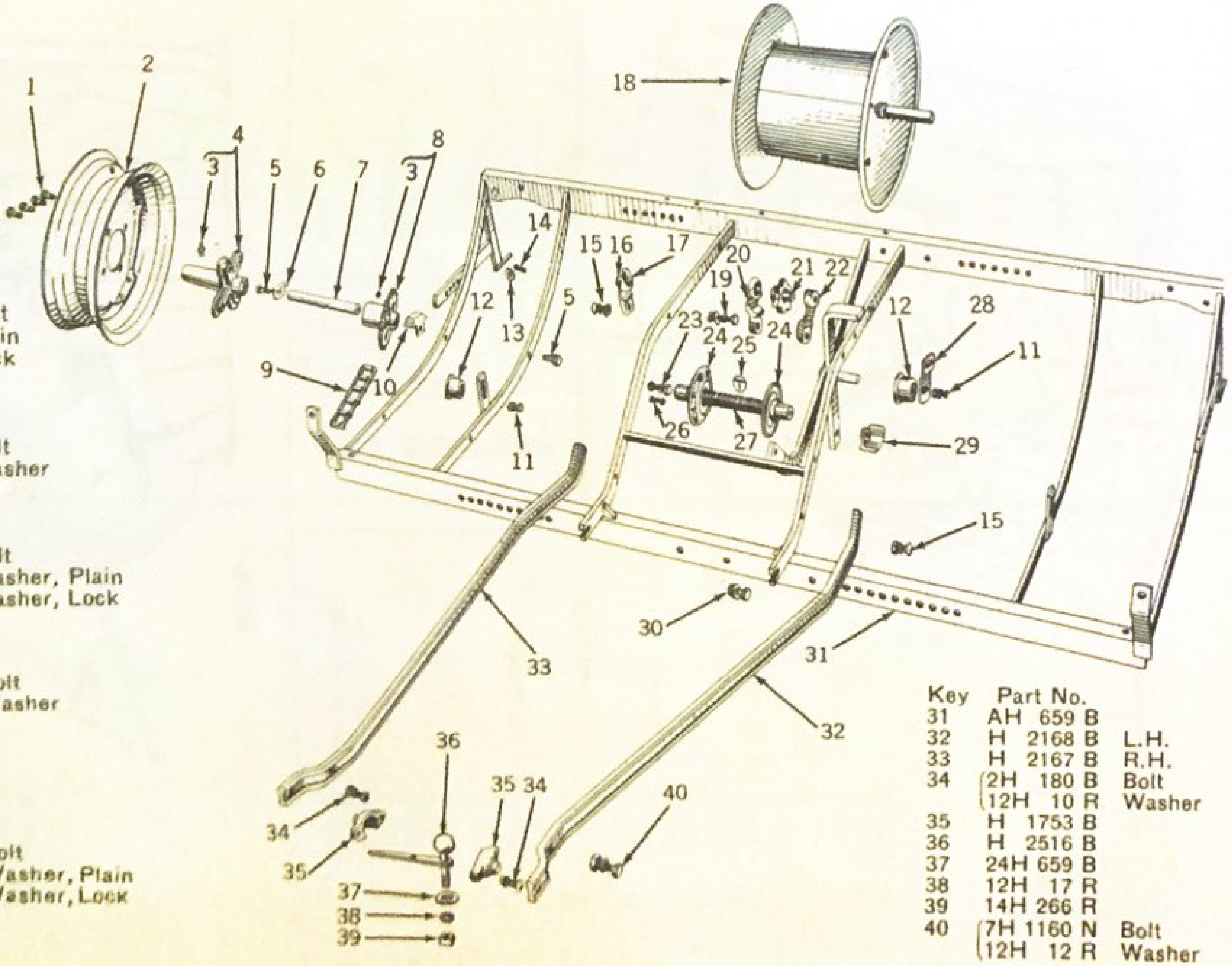
(a) Give model number of your planter.

(b) Give part number and quantity wanted.

INDEX TO UNITS

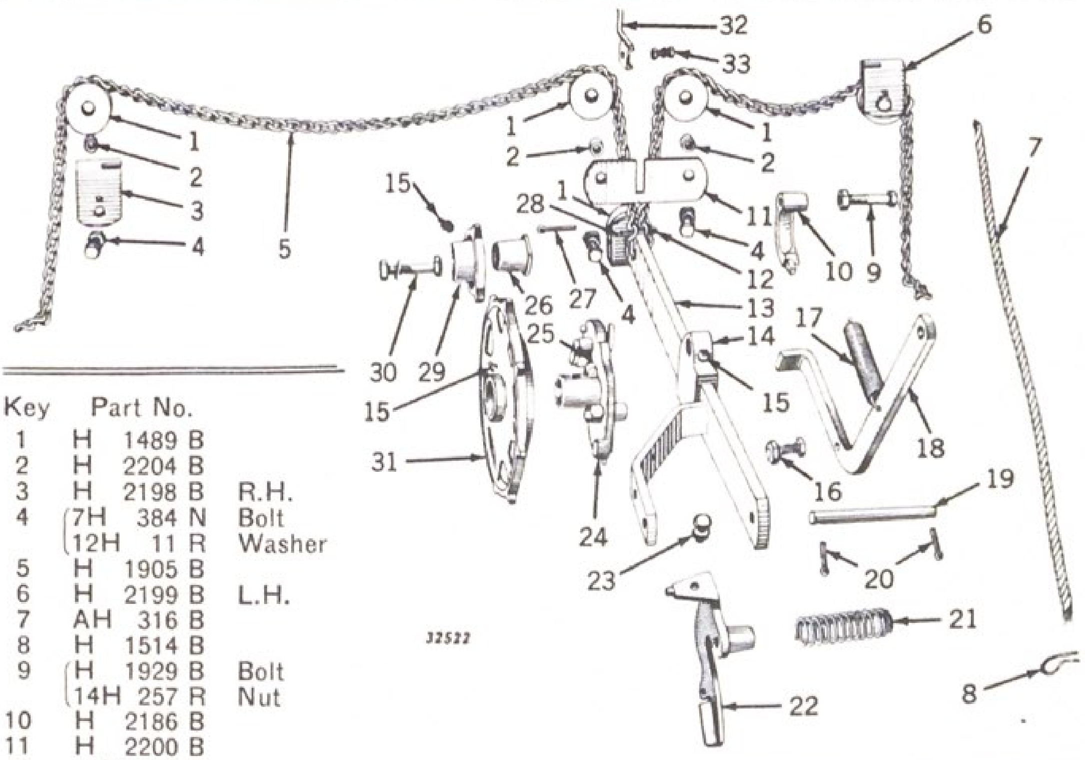
	Page
Frame, Reel, Hitch, Wheel	51
Lift Assembly	52
Reel	52
Counter Drive Shaft	53
Rocker Shaft and Checkhead	54
Runner Opener	55
Drill Shaft and Front Frame Bracket	56–57
Marker Control and Marker	58
Pressure Wheel and Frame	59
Checkhead	60
Hopper	61
Anchor Stake	62
Gauge Shoe	62
Pea Attachment	63
Fertilizer Attachment (Less Boot)	64
Fertilizer Boot	65
Double-Disk Furrowing Attachment, 9- and 11-Inch	65
Covering Knife	66
Automatic Hill-Drop	66
Powr-Trol Adapter Hose Holder	67
Powr-Trol Adapter	67
Rubber Tire Attachment for Press Wheels	68

Key	Part No.	
1	JD 22 B	
2	JD 455 B	
3	JD 7765	
4	AH 886 B	
5	19H 448 R	
	12H 13 R	
6	H 2171 B	
7	H 2715 B	
8	AH 844 B	
9	32	
10	H 2202 B	
11	2H 172 D	Bolt
	24H 149 H	Plain
	12H 10 R	Lock
12	H 1972 B	
13	24H 477 A	
14	11H 80 R	
15	2H 500 H	Bolt
	12H 12 R	Washer
16	H 1726 B	
17	11H 117 R	
18	AH 526 B	
19	2H 538 H	Bolt
	24H 381 A	Washer, Plain
	12H 12 R	Washer, Lock
20	H 1727 B	
21	H 1725 B	
22	H 1728 B	
23	7H 1163 N	Bolt
	12H 12 R	Washer
24	H 1986 B	
25	H 1308 B	
26	7H 82 E	
27	H 2478 B	
28	H 2023 B	
29	H 1743 B	
30	7H 1160 N	Bolt
	24H 381 A	Washer, Plain
	12H 12 R	Washer, Lock



Key	Part No.	
31	AH 659 B	
32	H 2168 B	L.H.
33	H 2167 B	R.H.
34	2H 180 B	Bolt
	12H 10 R	Washer
35	H 1753 B	
36	H 2516 B	
37	24H 659 B	
38	12H 17 R	
39	14H 266 R	
40	7H 1160 N	Bolt
	12H 12 R	Washer

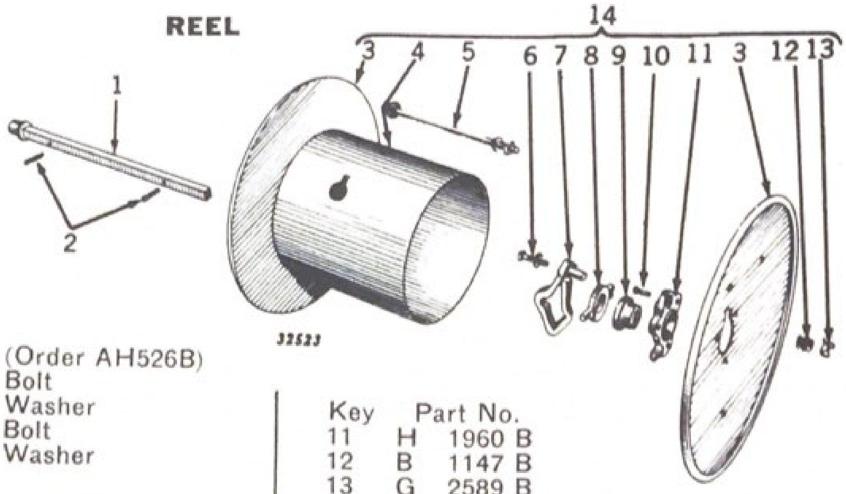
LIFT ASSEMBLY



Key	Part No.	
1	H 1489 B	
2	H 2204 B	
3	H 2198 B	R.H.
4	7H 384 N	Bolt
	12H 11 R	Washer
5	H 1905 B	
6	H 2199 B	L.H.
7	AH 316 B	
8	H 1514 B	
9	H 1929 B	Bolt
	14H 257 R	Nut
10	H 2186 B	
11	H 2200 B	
12	11H 111 B	
13	AH 624 B	
14	H 2177 B	
15	JD 7759	
16	7H 570 M	
17	Y 1576 B	
18	H 1872 B	
19	H 1941 B	
20	11H 80 R	
21	Y 1481 B	
22	H 2261 B	
23	7H 345 H	
24	H 2055 B	(Order AH540B)
	AH 540 B	

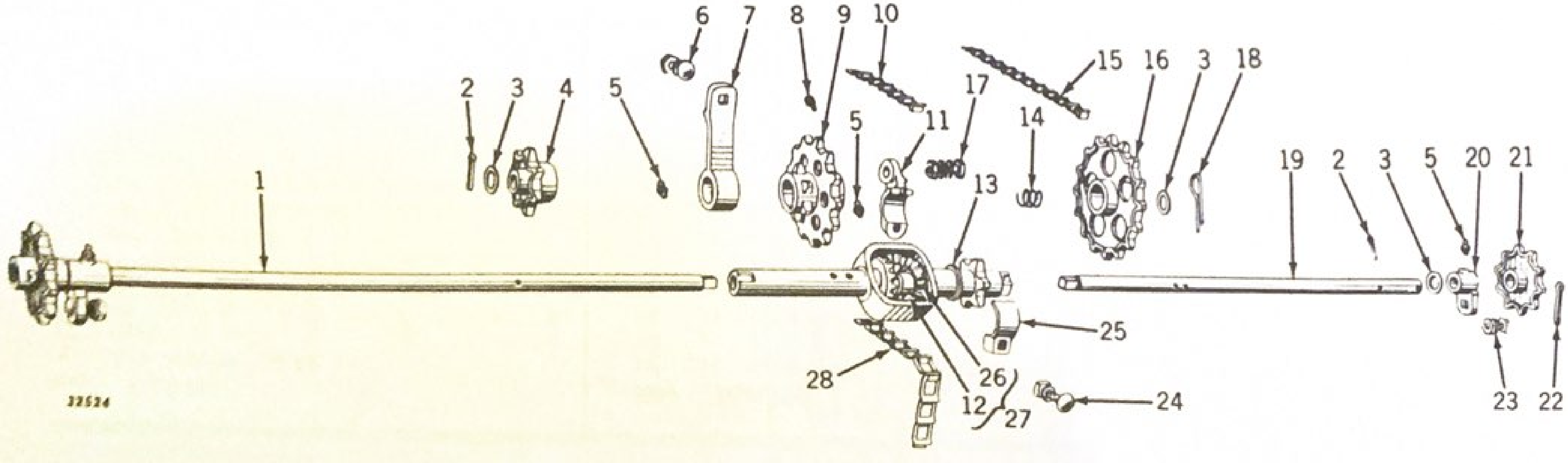
Key	Part No.	
25	H 2094 B	
26	H 1742 B	
27	11H 60 T	
28	H 2335 B	
29	H 2095 B	
30	7H 1133 N	Bolt
	12H 12 R	Washer
31	H 2178 B	
32	AH 631 B	
33	7H 345 H	Bolt
	12H 11 R	Washer

REEL



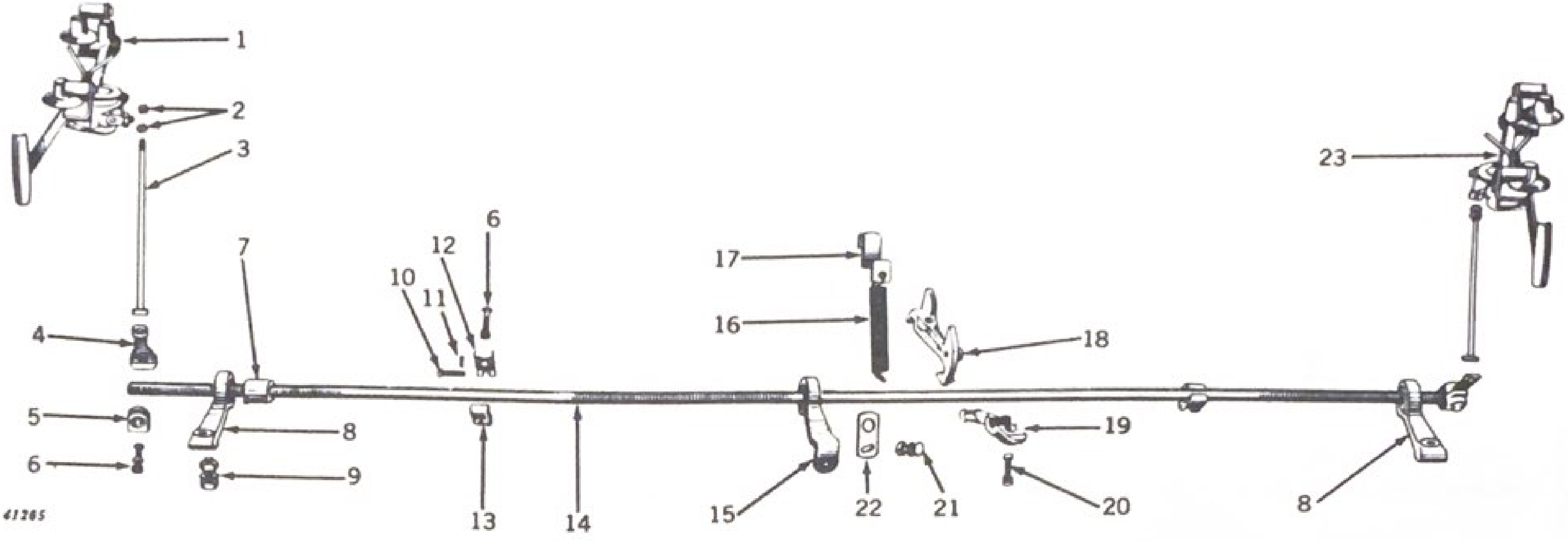
Key	Part No.	
1	H 1885 B	
2	11H 80 R	
3	H 2163 B	
4	H 2161 B	(Order AH526B)
5	3H 1147 B	Bolt
	12H 9 R	Washer
6	7H 1138 N	Bolt
	24H 139 A	Washer
7	H 1963 B	
8	H 1496 B	
9	H 1495 B	
10	16H 644 B	

Key	Part No.	
11	H 1960 B	
12	B 1147 B	
13	G 2589 B	
14	AH 526 B	
..	Y 5522 B	Coupling, Wire (Order by Pounds)



Key	Part No.	
1	H 2433 B	R.H.
2	11H 82 R	
3	24H 227 A	
4	H 2184 B	7-Tooth
	H 2320 B	11-Tooth, Special
5	JD 7759	
6	2H 500 H	Bolt
	12H 12 R	Washer
7	H 2170 B	R.H.
8	21H 597 R	Mach. Screw
	12H 9 R	Washer
9	H 2265 B	6- and 13-Tooth
	H 2266 B	6- and 15-Tooth, Special
10	32	Lift Clutch Drive Chain, 47 Links
11	H 1719 B	L.H.
12	H 1717 B	(Order AH746B)
13	H 2264 B	
14	H 1908 B	

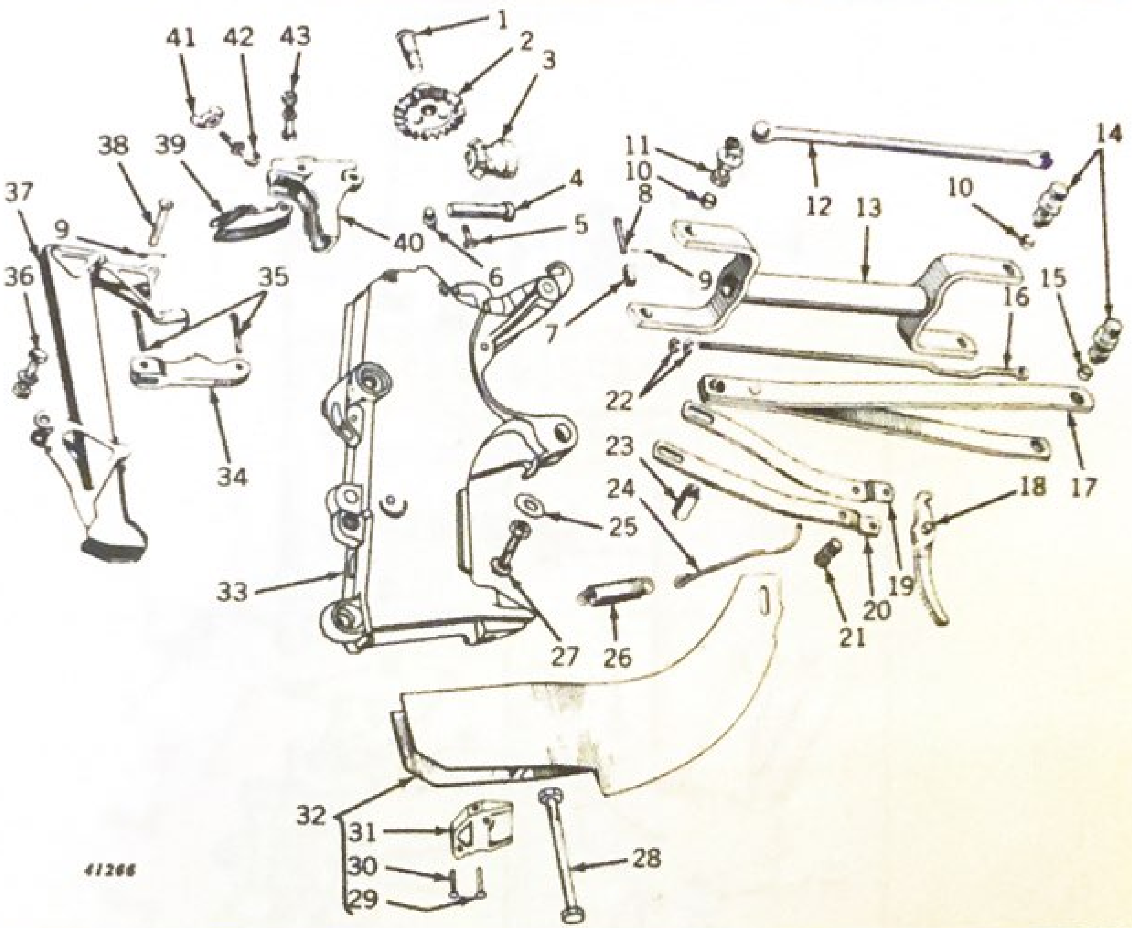
Key	Part No.	
15	32	Reel Drive Chain, 37 Links
16	H 2267 B	
17	7H 1160 N	Bolt
	12H 12 R	Washer, Lock
	24H 381 A	Washer, Plain
18	S 2955 D	
19	H 2434 B	L.H.
20	H 1736 B	
21	H 2432 B	
22	11H 139 R	
23	2H 482 H	Bolt
	12H 12 R	Washer
24	2H 526 R	Bolt
	12H 12 R	Washer
25	H 1896 B	L.H.
26	H 1716 B	(Order AH746B)
27	AH 746 B	
28	32	Drill Shaft Drive Chain, 26 Links



41265

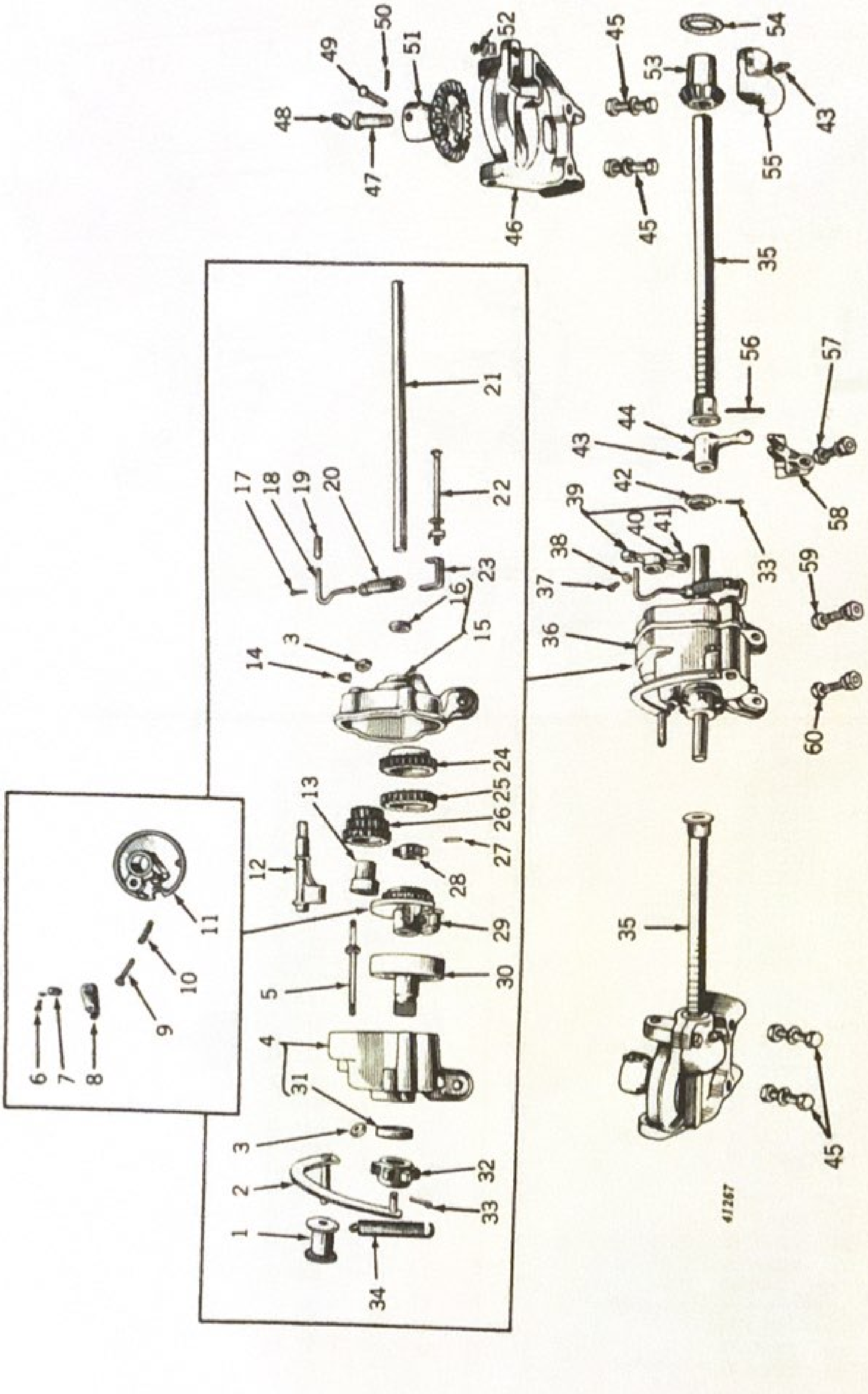
Key	Part No.	
1	AH 412 B	R.H.
2	14H 253 R	
3	H 2057 B	
4	H 2414 B	
5	H 1450 B	
6	2H 202 H 12H 10 R	Bolt Washer
7	H 2282 B	
8	H 2280 B	
9	7H 1160 N 12H 12 R	Bolt Washer
10	H 1609 B	
11	11H 39 R	

Key	Part No.	
12	H 1452 B	
13	H 1453 B	
14	H 1864 B	
15	H 2616 B	
16	H 2231 B	
17	H 2232 B	
18	H 2618 B	
19	H 2025 B	
20	7H 1147 N 12H 10 R	Bolt Washer
21	2H 67 H 12H 9 R	Bolt Washer
22	H 2617 B	
23	AH 413 B	L.H.



Key	Part No.	
1	H 1974 B	
2	H 2567 B	
3	H 2226 B	
4	H 1975 B	
5	7H 1126 N	
6	7H 158 H	Bolt
	12H 10 R	Washer
7	H 1187 B	
8	H 1959 B	
9	11H 38 R	
10	H 1815 B	
11	7H 1035 B	Bolt
	12H 100 B	Washer
12	H 1876 B	
13	AH 710 B	
14	7H 785 R	Bolt
	12H 100 B	Washer
15	H 1814 B	
16	H 2233 B	
17	AH 458 B	
18	H 2285 B	
19	H 2287 B	R.H.
20	H 2288 B	L.H.
21	7H 345 H	Bolt
	12H 11 R	Washer
22	14H 253 R	
23	H 1825 B	
24	H 2286 B	
25	H 1936 B	
26	H 1521 B	
27	2H 553 A	
28	7H 1170 N	
29	16H1135 A	
30	16H1157 A	
31	H 1772 B	
32	AH 379 B	
33	H 2540 B	
34	H 2042 B	
35	11H 84 R	
36	H 1828 B	Bolt
	12H 10 R	Washer
	14H 253 R	Nut
37	AH 671 B	
38	H 1935 B	
39	AH 816 B	
40	H 2591 B	
41	H 2624 B	
42	Y 2564 B	Eyebolt
	24H 139 A	Washer
43	19H 277 R	Bolt
	12H 11 R	Washer
	14H 255 R	Nut

DRILL SHAFT AND FRONT FRAME BRACKET

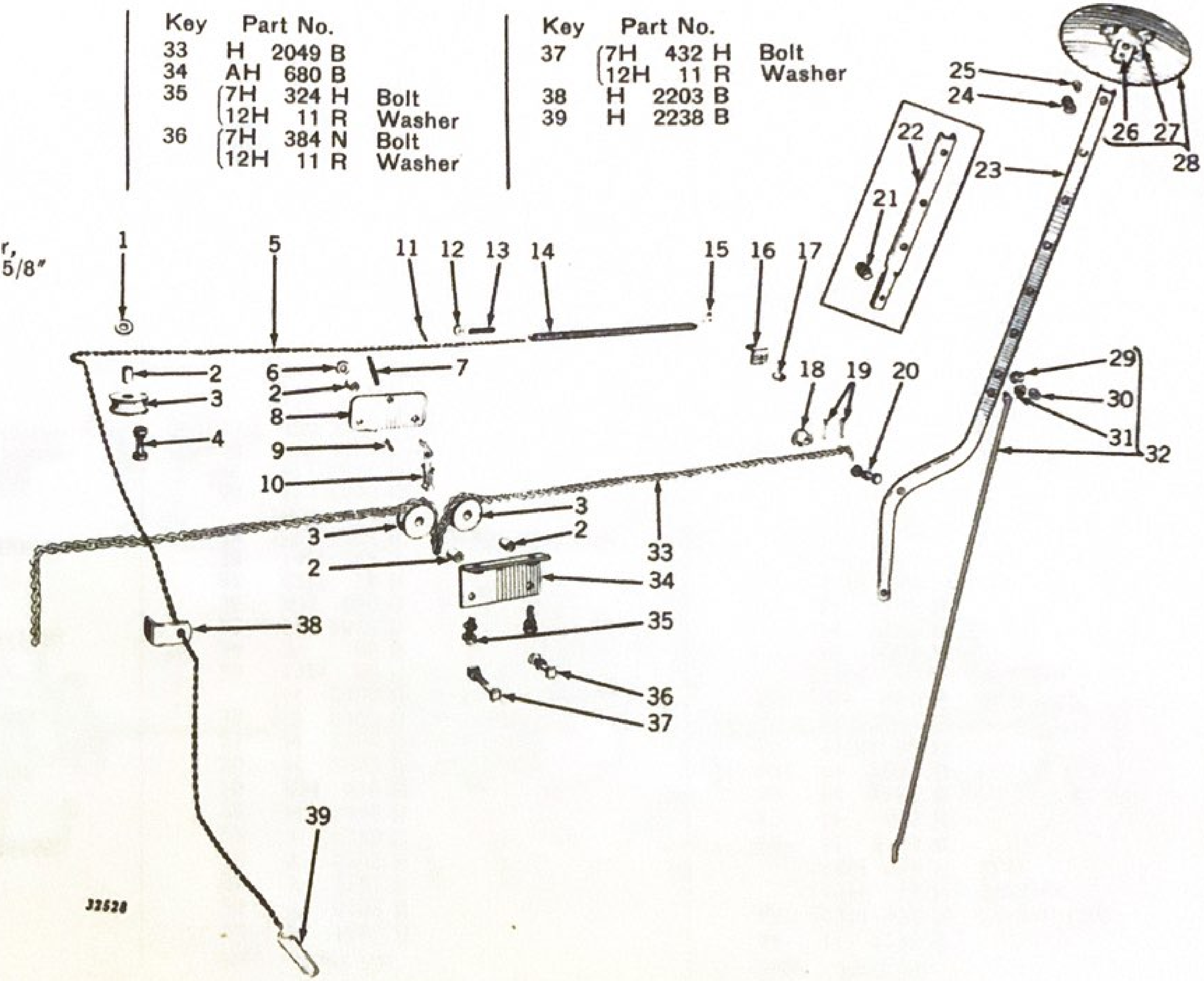


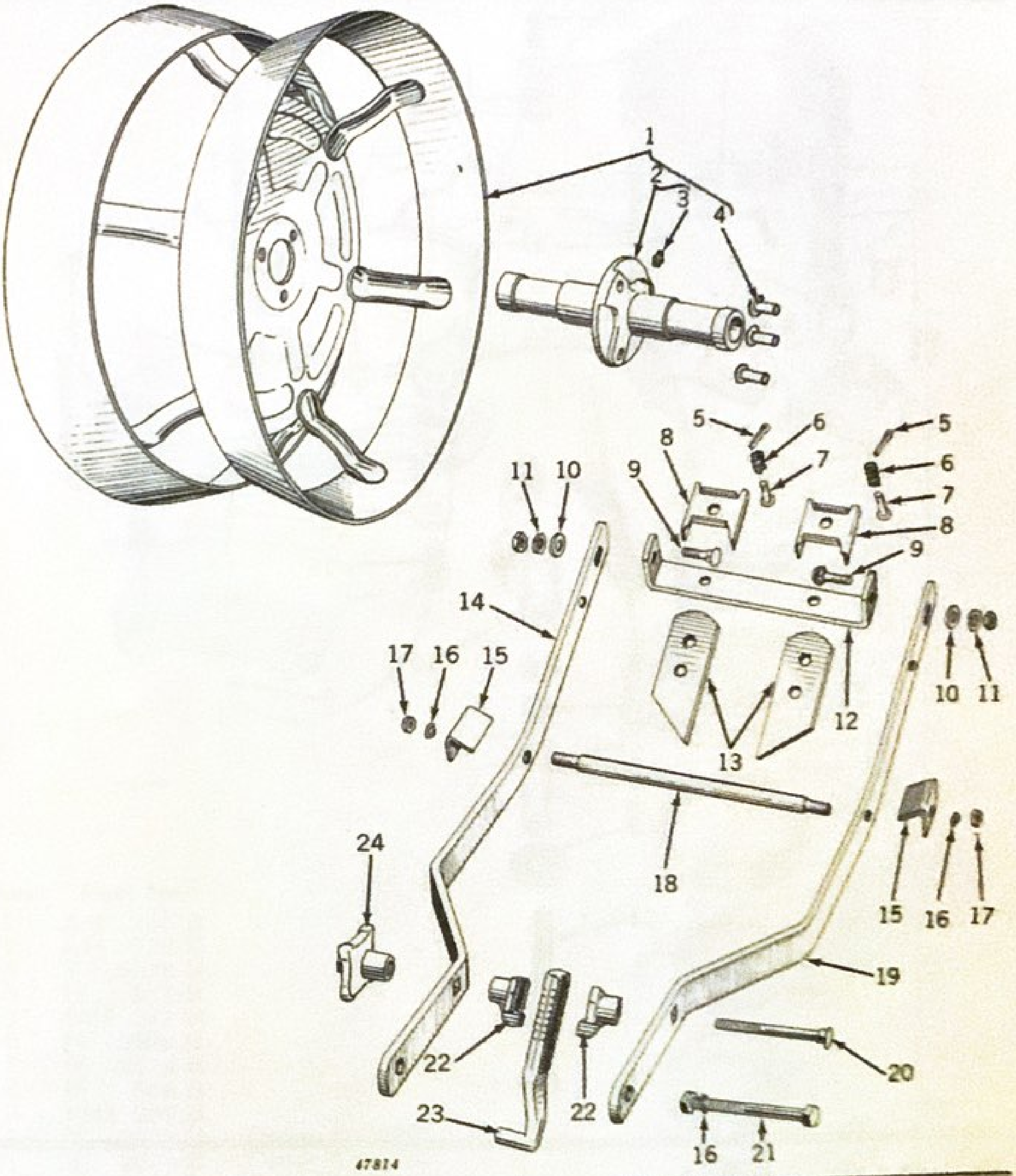
Key	Part No.	
1	P 2119 B	
2	AH 821 B	
3	14H 257 R	
4	H 2583 B	(Order AH813B)
	AH 813 B	
5	Y 5517 B	
6	21H 426 B	Screw, Mach.
	12H 7 R	Washer
7	H 2155 B	
8	AH 415 B	
9	H 1251 B	
10	Y 2275 B	
11	H 2154 B	(Order AH416B)
12	H 1797 B	
13	Y 5516 B	
14	15H 254 R	
15	H 2584 B	(Order AH814B)
	AH 814 B	
16	H 1539 B	
17	11H 19 R	
18	H 2165 B	
19	H 2164 B	
20	Y 5218 B	
21	H 2221 B	
22	H 2710 B	Bolt
	12H 10 R	Washer
	14H 253 R	Nut
23	H 1691 B	
24	Y 5192 B	
25	Y 5191 B	
26	Y 5193 B	
27	Y 4574 B	
28	H 1446 B	
29	AH 416 B	
30	H 2263 B	
31	H 2586 B	
32	H 2106 B	6-Tooth
	H 2498 B	7-Tooth, Special
33	11H 80 R	
34	Y 50 B	
35	H 2513 B	
36	AH 656 B	
37	22H 76 B	
38	14H 342 A	
39	H 1794 B	(Order AH414B)
	AH 414 B	
40	H 1540 B	
41	H 1541 B	
42	H 2512 B	
43	JD 7759	
44	H 2176 B	
45	19H 472 N	Screw, Cap
	12H 13 R	Washer
	14H 259 R	Nut
46	H 2166 B	
47	H 606 B	
48	H 1187 B	
49	H 1959 B	
50	11H 38 R	
51	H 2007 B	
52	2H 180 B	Bolt
	12H 10 R	Washer
53	H 2008 B	
54	H 2172 B	
55	H 2107 B	
56	11H 84 R	
57	7H 754 H	Bolt
	12H 13 R	Washer
58	H 1491 B	
59	7H 821 N	Bolt
	12H 13 R	Washer
60	7H 785 R	Bolt
	12H 13 R	Washer

Key	Part No.	
1	24H 149 H	
2	H 2204 B	
3	H 1489 B	
4	7H 384 N	Bolt
	12H 11 R	Washer
5	H 2209 B	
6	24H 376 A	
7	H 2187 B	
8	H 2208 B	
9	....	Pin, Cotter, 5/32" x 5/8"
10	H 2179 B	
11	11H 39 R	
12	24H 139 A	
13	JD 56 B	
14	H 2220 B	
15	Y 5522 B	
16	H 2229 B	
17	KK 1286 B	
18	H 1744 B	
19	11H 107 B	
20	7H 396 H	Bolt
	12H 11 R	Washer
21	7H 384 N	Bolt
	24H 376 A	Washer
	12H 11 R	Washer
22	H 1883 B	
23	H 2435 B	R.H.
	H 2436 B	L.H.
24	7H 363 H	Bolt
	12H 11 R	Washer
25	22H 69 B	
26	H 1730 B	
27	H 1731 B	
28	AH 461 B	
29	12H 11 R	
30	KK 1285 B	
31	14H 255 R	
32	AH 613 B	

Key	Part No.	
33	H 2049 B	
34	AH 680 B	
35	7H 324 H	Bolt
	12H 11 R	Washer
36	7H 384 N	Bolt
	12H 11 R	Washer

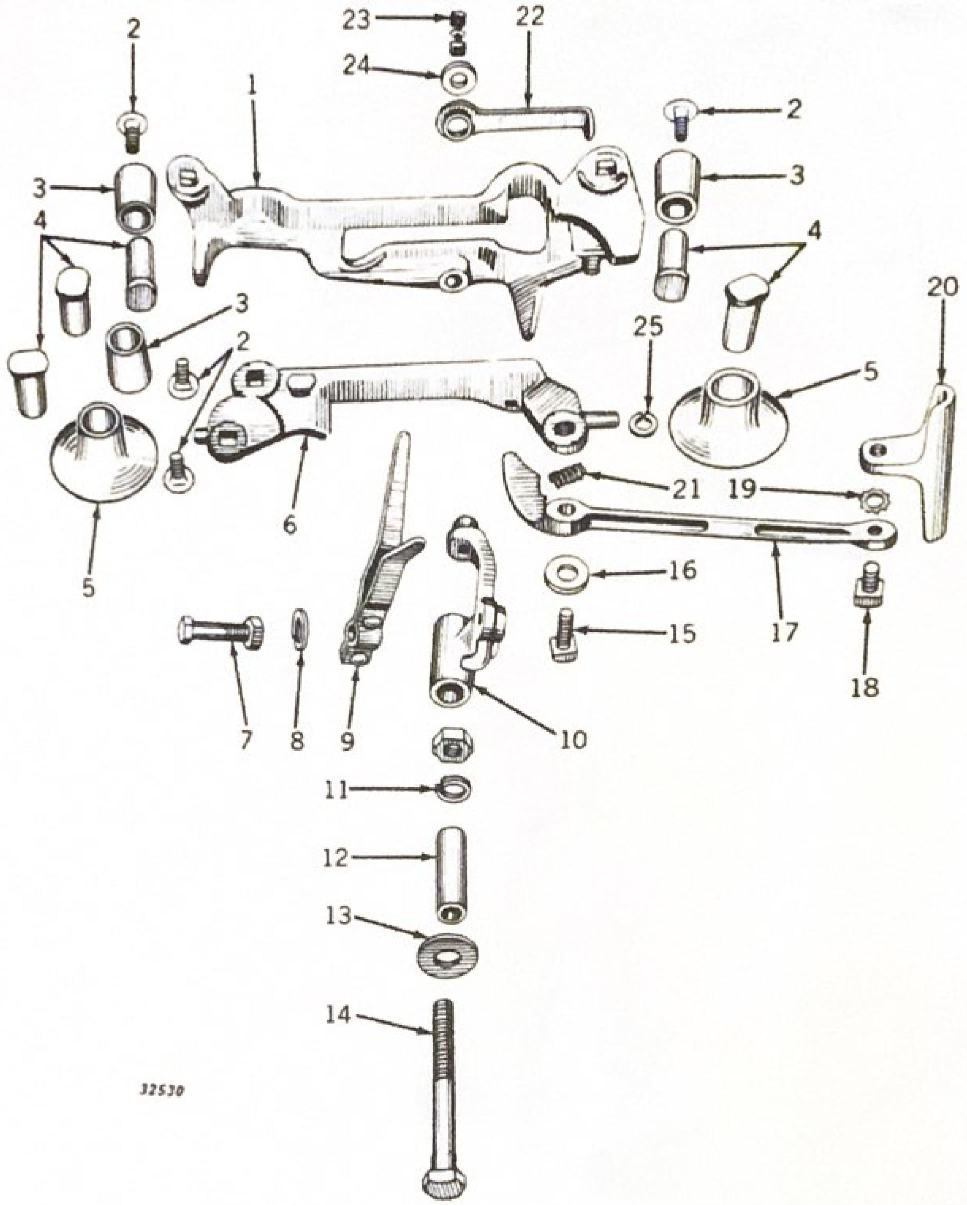
Key	Part No.	
37	7H 432 H	Bolt
	12H 11 R	Washer
38	H 2203 B	
39	H 2238 B	



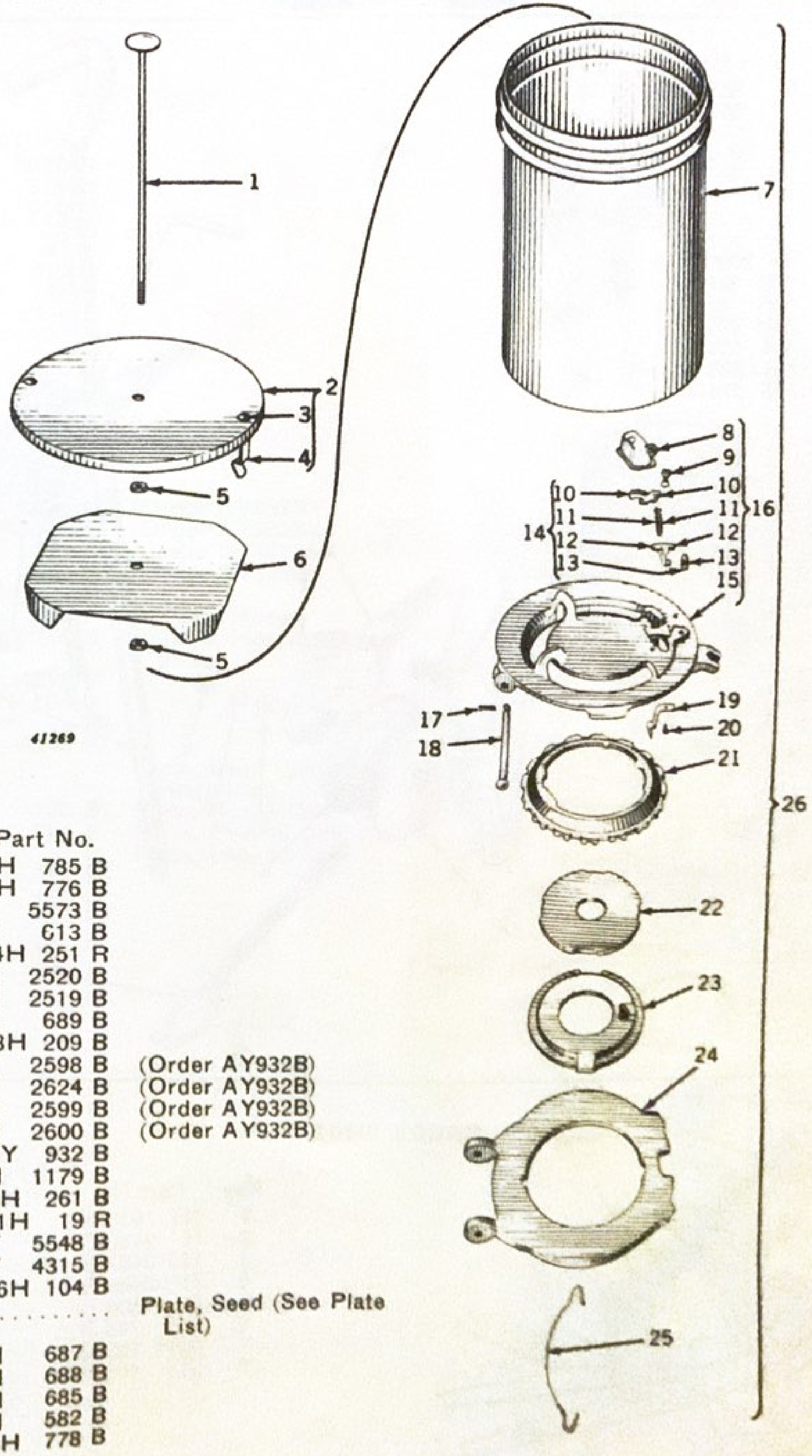


Key	Part No.	
1	JD 453 B	
2	H 2530 B AH 803 B	(Order AH803B)
3	JD 7765	
4	....	Rivet, Rd. Hd., 3/8" x 7/8"
5	11H 38 R	
6	B 1146 B	
7	Y 5550 B	
8	H 2302 B	
9	2H 306 R	
10	24H 376 A	
11	12H 11 R	
12	H 2300 B	
13	H 2301 B	
14	H 2724 B	R.H.
15	H 2171 B	
16	12H 12 R	
17	14H 257 R	
18	H 1687 B	
19	H 2725 B	L.H.
20	....	Bolt, Cge., 3/8" x 3-3/4"
21	7H 1169 N	
22	H 2510 B	
23	H 2509 B	
24	H 2511 B	

CHECKHEAD



Key	Part No.	
1	H 1819 B	R.H.
	H 1820 B	L.H.
2	2H 290 B	
3	Y 1532 B	
4	H 2059 B	
5	H 1658 B	
6	H 1460 B	R.H.
	H 1461 B	L.H.
7	19H 239 T	Screw, Cap
	14H 255 R	Nut
8	H 1995 B	
9	AH 29 B	(Order AH744B)
	AH 744 B	
10	H 1699 B	R.H.
	H 1700 B	L.H.
11	12H 13 R	
12	H 1818 B	
13	24H 477 A	
14	7H 1182 N	
15	7H 362 H	
16	24H 376 A	
17	H 1778 B	R.H.
	H 1779 B	L.H.
18	7H 306 B	
19	12H 255 B	
20	H 1568 B	
21	KK 3737 B	
22	H 1657 B	
23	7H 1229 N	Bolt
	12H 9 R	Washer
24	24H 141 A	
25	12H 11 R	

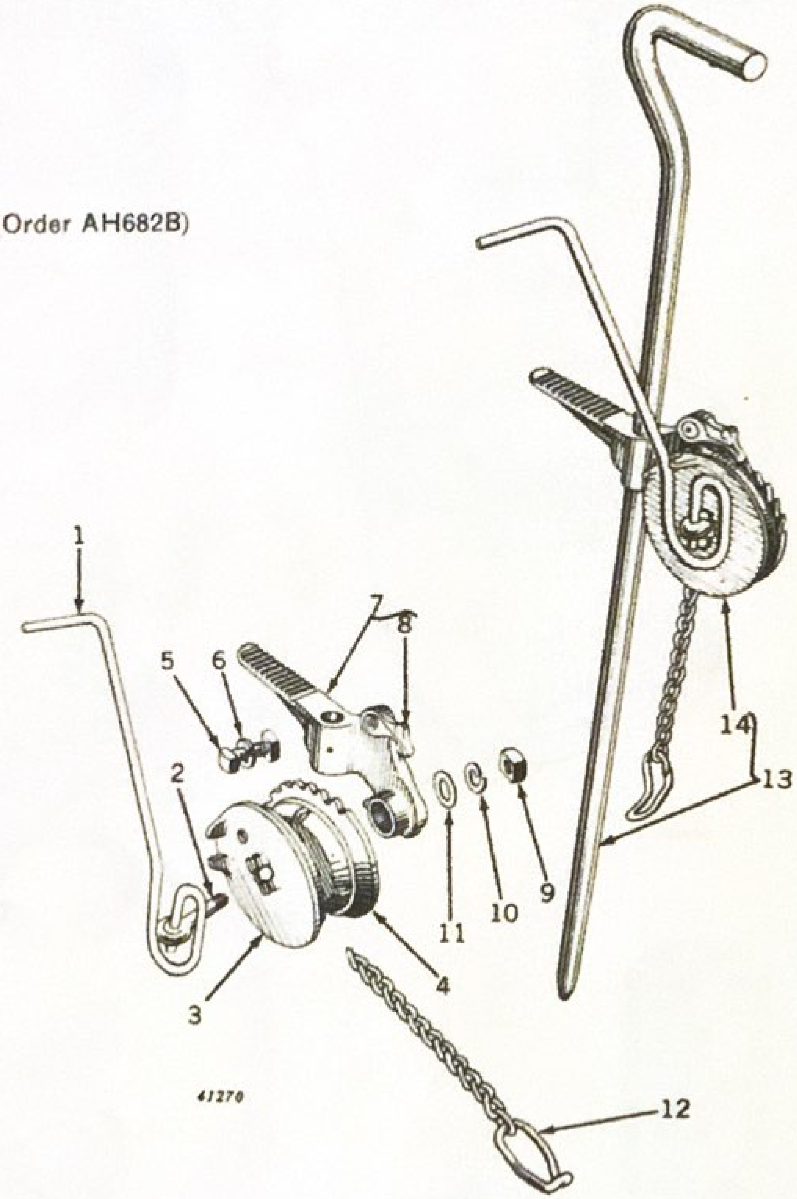


41269

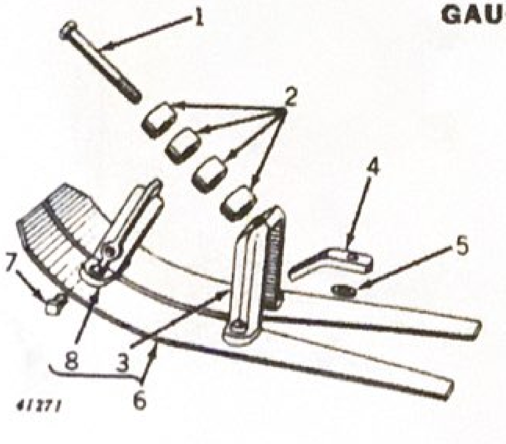
Key	Part No.	
1	AH 785 B	
2	AH 776 B	
3	Y 5573 B	
4	H 613 B	
5	14H 251 R	
6	H 2520 B	
7	H 2519 B	
8	H 689 B	
9	13H 209 B	
10	Y 2598 B	(Order AY932B)
11	Y 2624 B	(Order AY932B)
12	Y 2599 B	(Order AY932B)
13	Y 2600 B	(Order AY932B)
14	AY 932 B	
15	H 1179 B	
16	AH 261 B	
17	11H 19 R	
18	Y 5548 B	
19	Y 4315 B	
20	16H 104 B	
21	....	Plate, Seed (See Plate List)
22	H 687 B	
23	H 688 B	
24	H 685 B	
25	H 582 B	
26	AH 778 B	

ANCHOR STAKE

Key	Part No.	
1	H 585 B	
2	H 565 B	
3	H 2297 B	
4	H 2296 B	
5	7H 1026 H	
6	12H 11 R	
7	H 2003 B	(Order AH682B)
	AH 682 B	
8	H 2004 B	
9	14H 257 R	
10	12H 12 R	
11	24H 376 A	
12	AH 636 B	
13	AH 520 B	
14	AH 519 B	

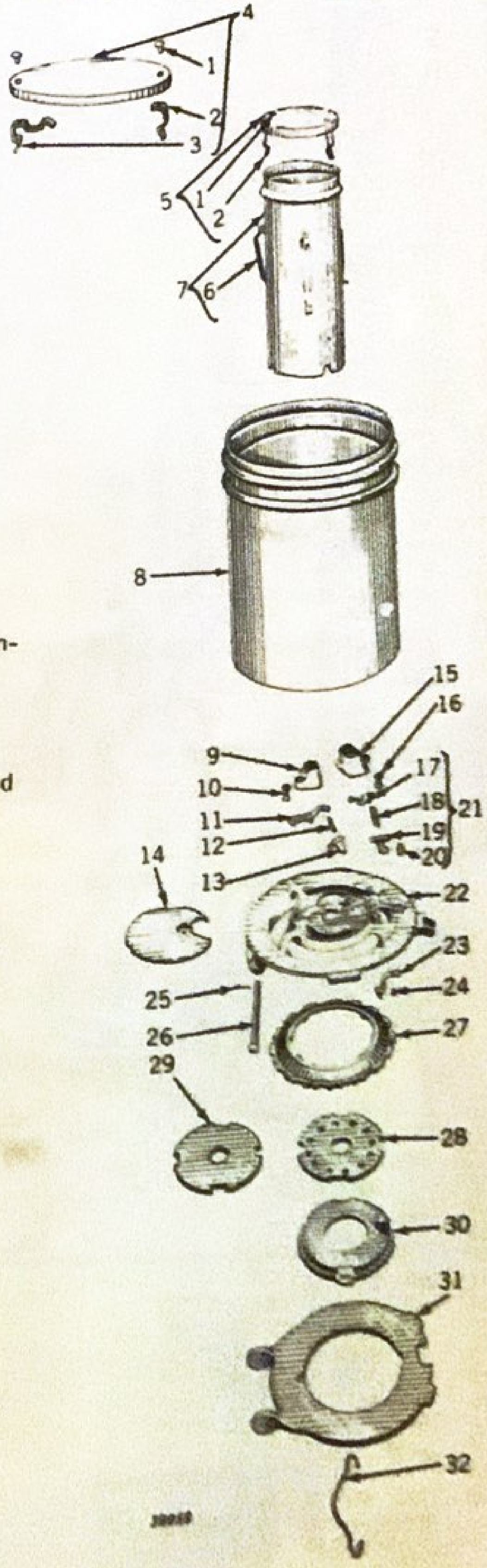


GAUGE SHOE



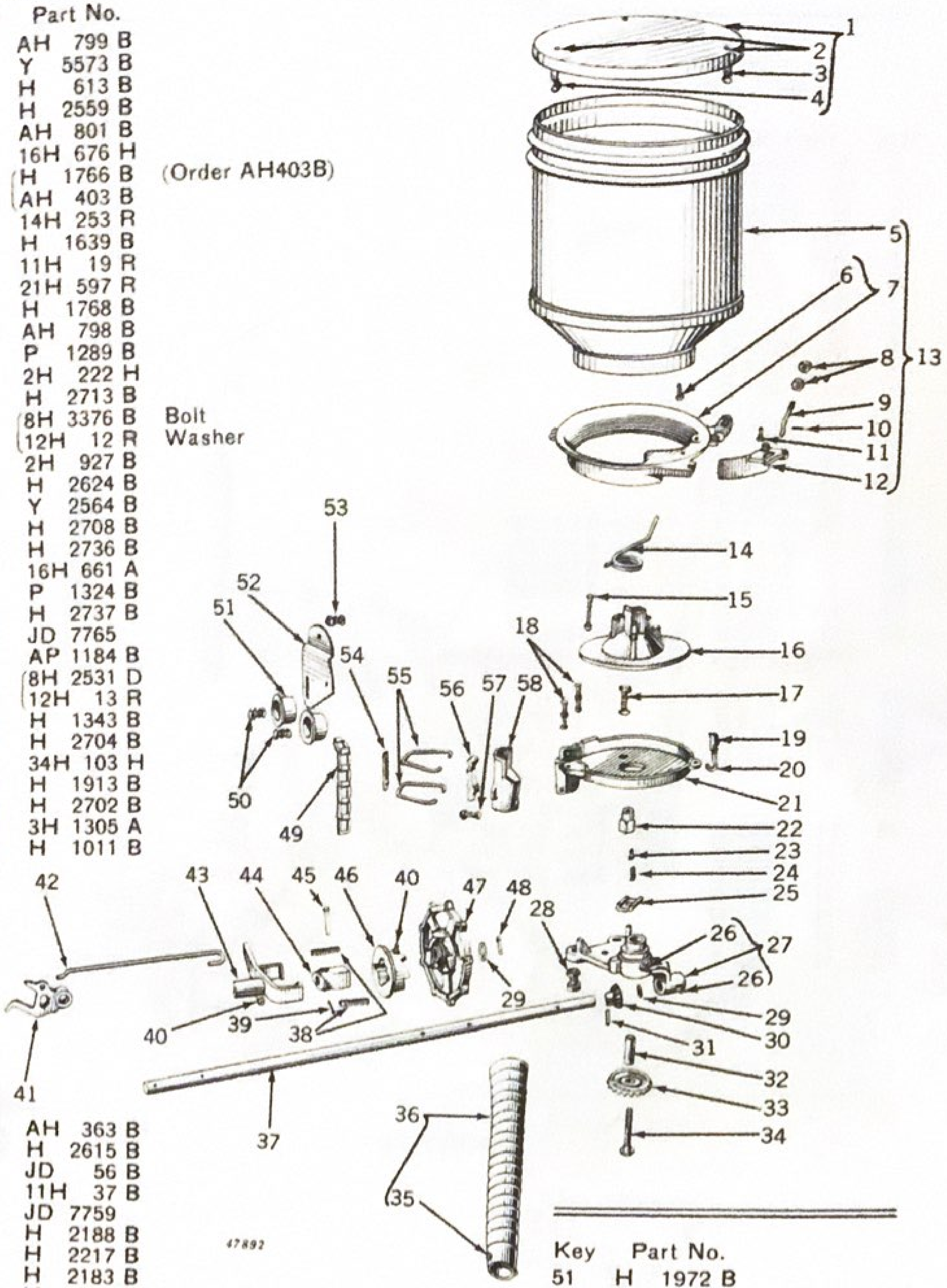
Key	Part No.
1	7H 935 H
2	H 2489 B
3	H 2487 B
4	H 2488 B
5	P 1300 B
6	AH 748 B
7	22H 152 B
8	P 455 BD

Key	Part No.	
1	Y 5573 B	
2	H 613 B	
3	H 2559 B	
4	AH 52 B	
5	AH 81 B	
6	H 612 B	
7	AH 781 B	
8	H 2519 B	
9	G 2487 B	
10	13H 243 C	
11	H 691 B	
12	Y 4314 B	
13	H 692 B	
14	H 693 B	
15	H 689 B	
16	13H 209 B	
17	Y 2598 B	(Order AY932B)
18	Y 2624 B	(Order AY932B)
19	Y 2599 B	(Order AY932B)
20	Y 2600 B	(Order AY932B)
21	AY 932 B	
22	H 686 B	Bottom, Hopper
	AH 268 B	Bottom, Hopper, Complete
23	Y 4315 B	
24	16H 104 B	
25	11H 19 R	
26	Y 5548 B	
27	....	Plate, Seed (See Seed Plate List)
28	H 733 B	Plate, Pea, 8-Cell
	H 734 B	Plate, Pea, 12-Cell
	H 735 B	Plate, Pea, 16-Cell
29	H 687 B	
30	H 688 B	
31	H 685 B	
32	H 582 B	



FERTILIZER ATTACHMENT (LESS BOOT)

Key	Part No.	
1	AH 799 B	
2	Y 5573 B	
3	H 613 B	
4	H 2559 B	
5	AH 801 B	
6	16H 676 H	
7	H 1766 B AH 403 B	(Order AH403B)
8	14H 253 R	
9	H 1639 B	
10	11H 19 R	
11	21H 597 R	
12	H 1768 B	
13	AH 798 B	
14	P 1289 B	
15	2H 222 H	
16	H 2713 B	
17	8H 3376 B 12H 12 R	Bolt Washer
18	2H 927 B	
19	H 2624 B	
20	Y 2564 B	
21	H 2708 B	
22	H 2736 B	
23	16H 661 A	
24	P 1324 B	
25	H 2737 B	
26	JD 7765	
27	AP 1184 B	
28	8H 2531 D 12H 13 R	
29	H 1343 B	
30	H 2704 B	
31	34H 103 H	
32	H 1913 B	
33	H 2702 B	
34	3H 1305 A	
35	H 1011 B	

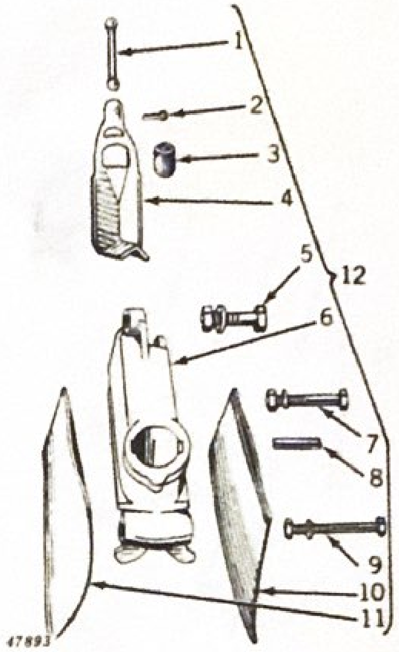


Key	Part No.	
36	AH 363 B	
37	H 2615 B	
38	JD 56 B	
39	11H 37 B	
40	JD 7759	
41	H 2188 B	
42	H 2217 B	
43	H 2183 B	
44	H 2038 B	
45	H 2275 B	
46	H 1817 B	
47	H 2182 B	
48	11H 84 R	
49	32	Chain, 67 Links
50	2H 172 D 24H 149 H 12H 10 R	Bolt Washer, Plain Washer, Lock

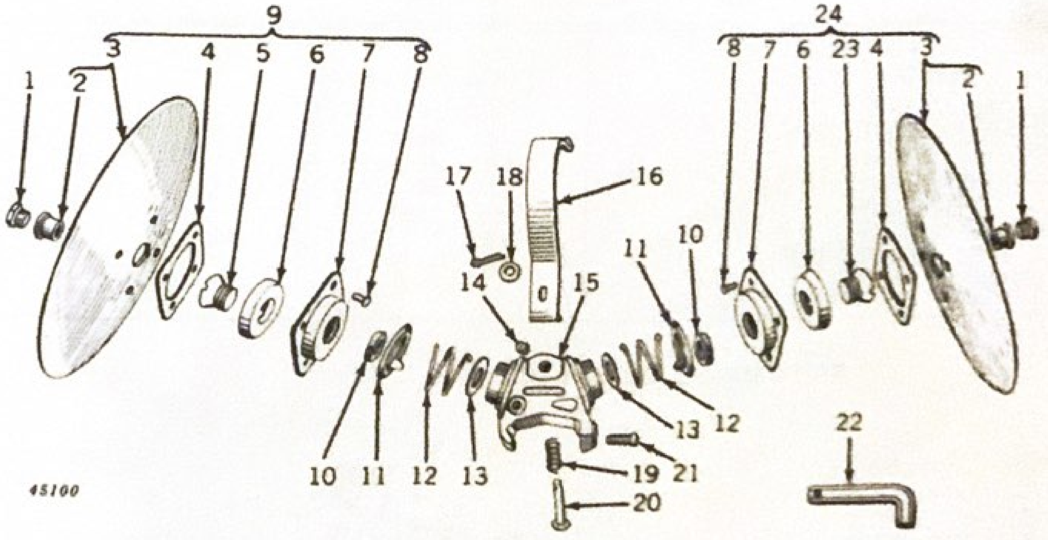
Key	Part No.	
51	H 1972 B	
52	H 2039 B	
53	2H 306 R 12H 11 R	Bolt Washer
54	H 1665 B	
55	H 1664 B	
56	H 1812 B	
57	2H 334 H 12H 11 R	Bolt Washer
58	H 1811 B	

FERTILIZER BOOT

Key	Part No.	
1	H 2307 B	
2	11H 43 R	
3	H 1007 B	
4	H 2739 B	
5	7H 363 H 12H 11 R	Bolt Washer
6	H 2588 B	
7	7H 424 N 12H 11 R	Bolt Washer
8	H 2585 B	
9	7H 1151 N 12H 10 R	Bolt Washer
10	H 1585 B	R.H.
11	H 1586 B	L.H.
12	AH 815 B	

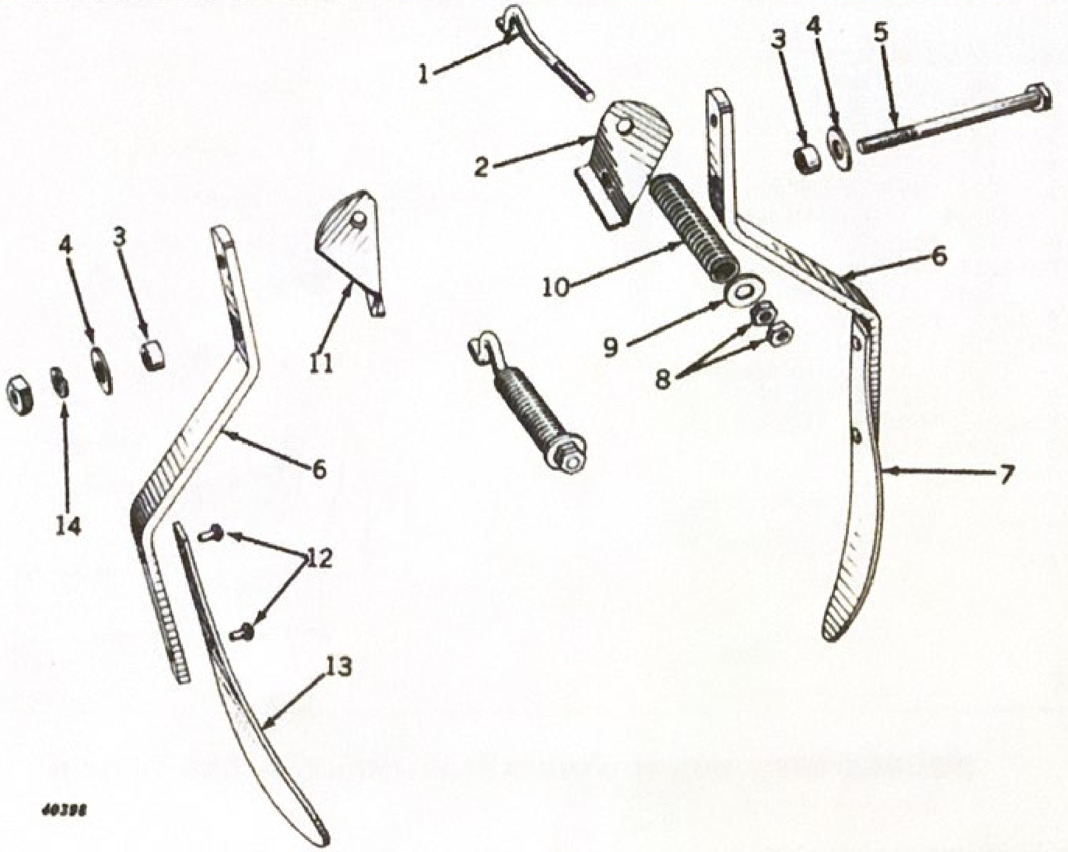


DOUBLE-DISK FURROWING ATTACHMENT, 9- AND 11-INCH



Key	Part No.	
1	B 560 M	
2	D 731 M	
3	AH 854 B AH 855 B	9" 11"
4	H 2692 B	
5	A 40 M	L.H.
6	H 2686 B	
7	H 2687 B	
8	16H 1073 A	
9	AH 851 B AH 853 B	9", L.H. 11", L.H.
10	B 1845 MN	
11	A 458 M	
12	S 7 M	
13	S 2550 M	
14	JD 7759	
15	H 2675 B	
16	H 2690 B	
17	11H 38 R	
18	24H 129 N	
19	P 2432 B	
20	H 2691 B	
21	22H 113 D	
22	Y 4509 B	
23	A 39 M	R.H.
24	AH 850 B AH 852 B	9", R H. 11", R.H.

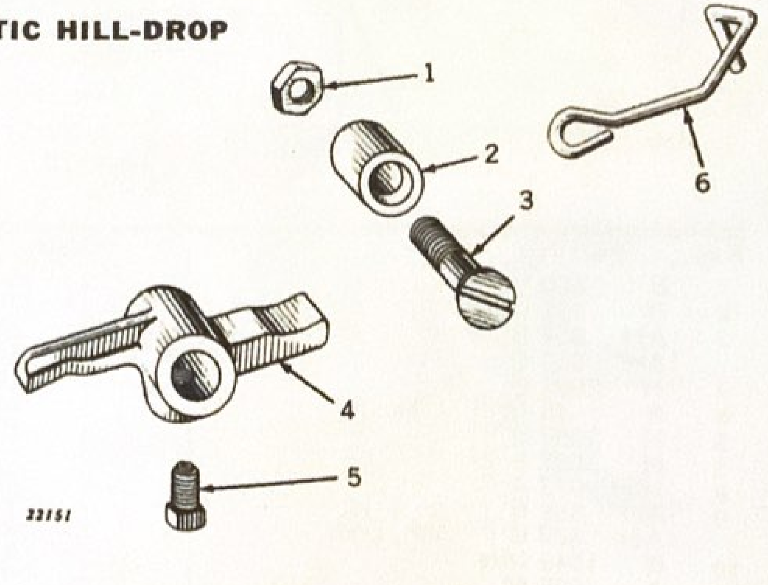
COVERING KNIFE



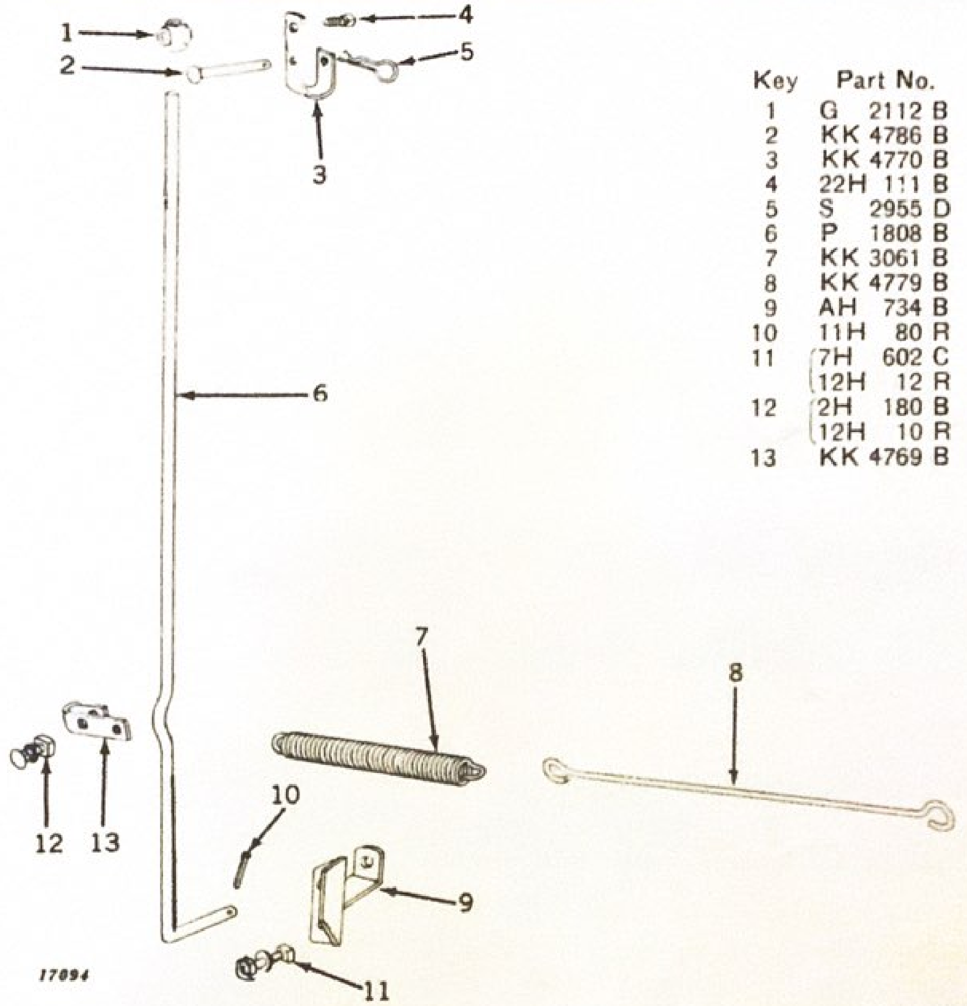
Key	Part No.	
1	H 2483 B	
2	H 2278 B	R.H.
3	H 1814 B	
4	24H 377 A	
5	7H 1170 N	
6	H 2277 B	
7	Y 1891 BD	R.H.
8	14H 255 R	
9	24H 149 H	
10	H 2525 B	
11	H 2279 B	L.H.
12	16H 672 B	
13	Y 1890 BD	L.H.
14	12H 12 R	

AUTOMATIC HILL-DROP

Key	Part No.
1	14H 255 R
2	H 1637 B
3	19H 261 B
4	H 2485 B
5	22H 105 B
6	H 2484 B



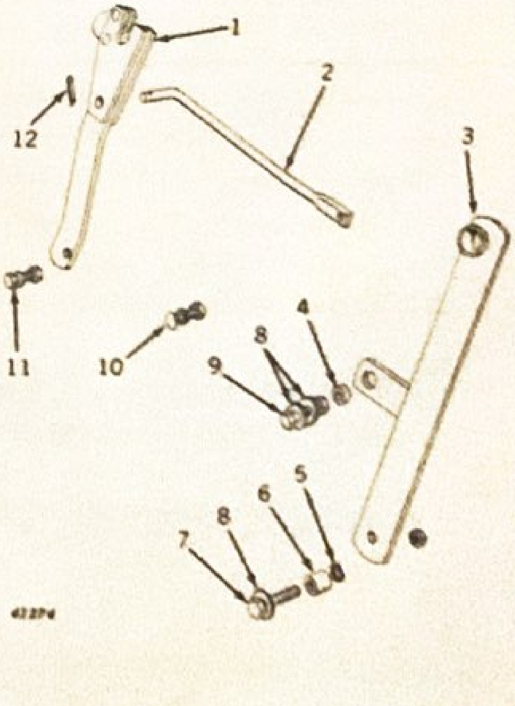
POWR-TROL ADAPTER HOSE HOLDER

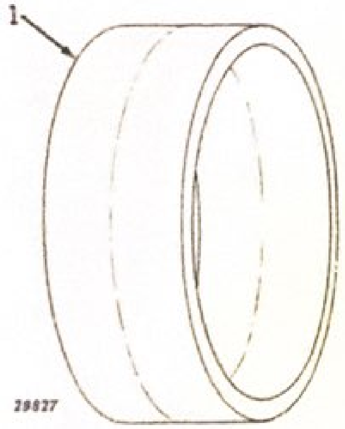


Key	Part No.	
1	G 2112 B	
2	KK 4786 B	
3	KK 4770 B	
4	22H 111 B	
5	S 2955 D	
6	P 1808 B	
7	KK 3061 B	
8	KK 4779 B	
9	AH 734 B	
10	11H 80 R	
11	7H 602 C	Bolt
	12H 12 R	Washer
12	2H 180 B	Bolt
	12H 10 R	Washer
13	KK 4769 B	

POWR-TROL ADAPTER

Key	Part No.	
1	AH 732 B	
2	H 2459 B	
3	AH 733 B	
4	H 2460 B	
5	12H 12 R	
6	H 2461 B	
7	7H 1163 N	
8	24H 381 A	
9	7H 1160 N	
10	2H 543 H	Bolt
	12H 12 R	Washer
11	7H 602 C	Bolt
	12H 12 R	Washer
12	11H 80 R	





Key	Part No.
1	H 2507 B

Farm Accidents Can Be Prevented *with Your Help*

NO accident prevention program can be successful without the whole-hearted cooperation of the person who is directly responsible for the operation of equipment.

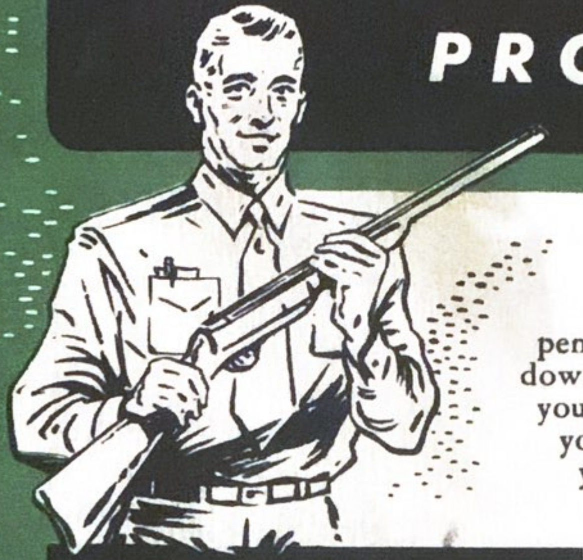
To read accident reports from all over the Country is to be convinced that a large number of accidents can be prevented only by the operator anticipating the result before the accident is caused and doing something about it. No power-driven equipment, whether it be transportation or processing, whether it be on the highway, in the harvest field, or in the industrial plant, can be safer than the man who is at the controls. If farm accidents are to be prevented—and they can be prevented—it will be done by the operators who accept a full measure of their responsibility.

It is true that the designer, the manufacturer, the safety engineer can help; and they will help, but their combined efforts can be wiped out by a single careless act of the operator.

It is said that "*the best kind of a safety device is a careful operator*." We ask you to be that kind of an operator.

NATIONAL SAFETY COUNCIL

Your JOHN DEERE Dealer Offers Double-Barreled *PROTECTION!*



Your John Deere Equipment is designed and built to deliver efficient, dependable service and performance down through the years. Yet, when you need service or parts, rely on your John Deere dealer. He's your full-time working partner; he, alone, offers double-barreled protection for your equipment.

1. *SERVICE*

If service is required, your John Deere dealer's skilled mechanics can handle efficiently every need. These servicemen are trained in John Deere servicing methods; they have proper tools and parts. No other shop in your community offers these advantages.

2. *PARTS*

If parts are needed, you can depend on your John Deere dealer for genuine John Deere parts . . . replacement parts that fit right, wear properly. They're exact duplicates of the parts they replace. Remember . . . only *genuine* John Deere parts deliver 100 per cent John Deere performance . . . the performance you chose when you bought your John Deere equipment.

Yes . . . for parts . . . for service on your John Deere equipment, take it to the man who knows it best . . . your John Deere dealer.

For the BEST Service for Your JOHN DEERE Tractor and Equipment . . .

SEE YOUR JOHN DEERE DEALER

SHIPPING BUNDLES

IMPORTANT: Do not remove crate before wheels are assembled to frame.

REGULAR SHIPPING BUNDLES

1 Crate, Bundle No. 3900B containing main frame with planting units, pressure wheels, hitch, anchor stakes, markers, lift clutch rope, ground wheels (for but less tires) and Operator's Manual.
1 Crate, Bundle No. 3901B containing same as above, but less checkrower.
1 Carton No. 3593B contains two seed hoppers.
1 No. 2563B Reel of Wire (Size as ordered).

SPECIAL EQUIPMENT

FERTILIZER ATTACHMENT

1 Bundle No. 4325B Two Fertilizer Hoppers with Split Boots.
1 Bundle No. 4326B Two Fertilizer Hoppers with Disk Openers (as ordered).
1 Bundle No. 4327B Fertilizer Drive Shaft.

Hill-Drop Attachment

1 No. AH822B.

Pea Attachment

1 Bundle No. 3594B in lieu of Bundle No. 3593B.

Double-Disk Furrowing Attachment

1 Bundle No. 4196B—11-Inch Double-Disk Furrow Openers.
1 Bundle No. 4197B—9-Inch Double-Disk Furrow Openers.

Powr-Trol Adapter and Hose Holder

1 Bundle No. 3448B.

Covering Knife Attachment

1 Bundle No. 3092B.

28" Concave Steel Wheels

2 Bundles No. 3902B.

Gauge Shoe Attachment

1 Bundle No. 3528B.

Zero Pressure Press Wheel Tires

4 H2507B.

Spring Pressure Attachment

1 Bundle No. 4112B.

Double-Disk Opener

1 Bundle No. 3953B Lower Parallel Arms.
1 Bundle No. 4157B—14-Inch Double Disk Openers.

JOHN DEERE No. 290 CORN PLANTER

PREDELIVERY CHECK LIST

After the planter has been completely assembled and lubricated, inspect to be sure it is in good running order before delivering it to the customer. The following check list is a reminder of points to inspect. Check off each item as it is found satisfactory or after proper adjustment is made.

☐ 1. Planter has been assembled as per instructions. Nuts on all bolts have been tightened and all cotter keys spread.

☐ 2. All grease fittings have been lubricated. (See lubrication chart.)

☐ 3. Gear case is filled with No. 20 SAE oil. (See lubrication chart.)

☐ 4. All moving parts are working freely.

☐ 5. Clutch stop lift cam rests on front sill bar.

☐ 6. Tires are inflated to 18 pounds.

☐ 7. Planter is adjusted to row width desired by customer.

☐ 8. Markers are adjusted for row width desired.

☐ 9. Lift chains and marker chains are not twisted.

☐ 10. Valves and checkhead rods have been checked for proper adjustment after planter has been loosened up on run-in stand.

☐ 11. This planter has been thoroughly checked and to the best of my knowledge is ready for delivery to the customer.

____
(DATE SET-UP)

____
(SIGNATURE OF SET-UP MAN)

OWNER'S REGISTER

Name. . . . .

Post Office . . . .

County . . . . State . . . .

Serial Number . . . .

Operator's Manual No. . . . .

Date Sold . . . .

DELIVERY CHECK LIST

At time planter is delivered the following check list is a reminder of very important information which should be conveyed directly to the customer. Check off each item as it is fully explained to customer.

☐ 1. Because some fertilizers readily accumulate moisture and are quick to cause metal to corrode, the customer has been advised to thoroughly clean inside of fertilizer hoppers, hopper bottoms, feed plates, spouts and boots immediately after using planter.

☐ 2. The importance of using the proper seed plate has been explained to the customer.

☐ 3. The customer has been advised the life expectancy of this or any other machine is dependent on regular lubrication as directed in Operator's Manual.

☐ 4. The customer has been advised of all the safety precautions he must exercise while using this planter.

☐ 5. The Operator's Manual has been given to the customer and all operating adjustments fully explained to him.

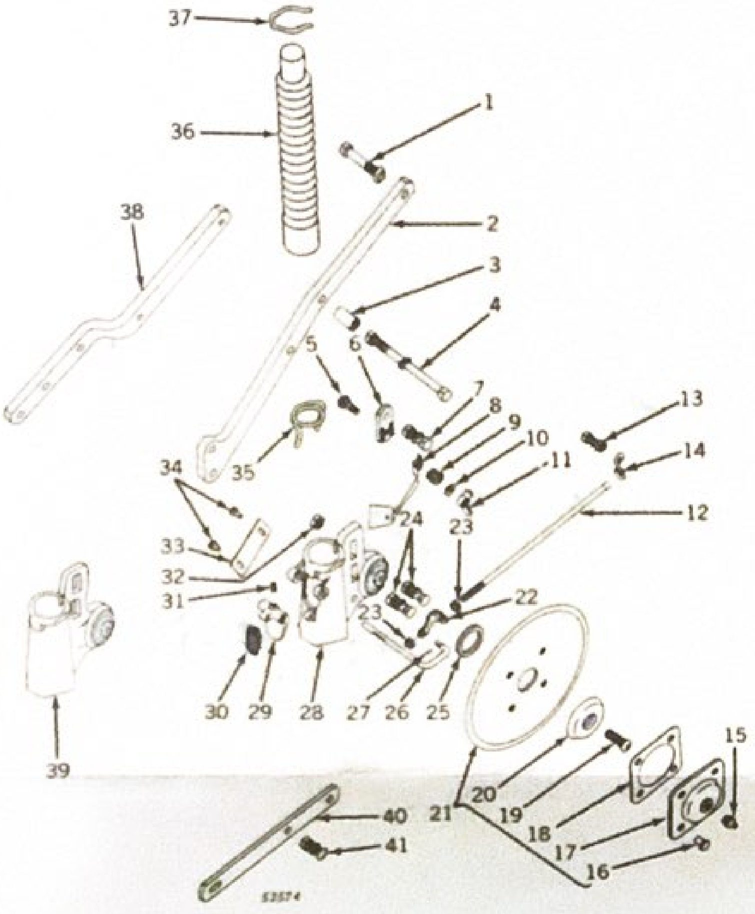
☐ 6. To the best of my knowledge this machine has been delivered ready for field use and customer has been fully informed as to proper care and operation.

____
(DATE DELIVERED)

____
(SIGNATURE)

PARTS LIST

Key	Part No.	
1	(7H 857 B	Bolt *
	(7H 1294 B	Bolt **
	(12H 12 R	Washer **
2	H 2726 B	*
3	(H 2821 B	*
	(P 652 B	**
4	(7H 1298 B	Bolt *
	(7H 1129 B	Bolt **
	(12H 12 R	Washer *
	(12H 11 R	Washer **
5	2H 77 D	
6	H 2720 B	
7	(7H 570 M	Bolt
	(12H 12 R	Washer
8	BB 115 M	
9	B 1146 B	
10	24H 139 A	
11	G 2589 B	
12	H 2729 B	*
13	7H 1026 H	*
14	H 2728 B	
15	JD 7798	
16	16H 1073 A	
17	H 2727 B	
18	H 2692 B	
19	H 2732 B	
20	H 2719 B	
21	AH 876 B	
22	H 2471 B	*
23	14H 251 R	*
24	(2H 635 R	Bolt
	(12H 13 R	Washer
25	H 2731 B	
26	H 2730 B	*
27	34H 37 C	*
28	(H 2834 B	R. H. *
	(H 2835 B	L. H. *
29	H 2718 B	*
30	H 1007 B	*
31	22H 560 H	*
32	14H 346 A	
33	H 2833 B	
34	H 2841 B	
35	H 2840 B	*
36	H 2838 B	*
37	H 2839 B	*
38	P 2673 B	**
39	(P 2898 B	R. H. **
	(P 2899 B	L. H. **
40	H 2721 B	*
41	(2H 306 R	Bolt *
	(12H 11 R	Washer *



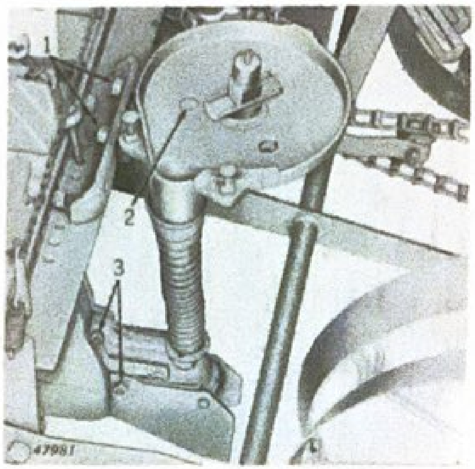
* - Nos. 290 and 490 Planter only

** - Nos. 246, 247, 446 and 447
Planters only

FERTILIZER DISK OPENERS

This direction is to be used when installing fertilizer disk openers on planters manufactured before May 1, 1955. When installing fertilizer disk openers on planters made after May 1, 1955 consult the Operator's Manual shipped with the planter. In either case, consult the planter Operator's Manual for installation and operation of the fertilizer attachment. The disk openers are right- and left-hand and can be installed on the fertilizer attachment in place of the split boot type openers.

JOHN DEERE NOS. 246, 247, 446 AND 447 PLANTERS



NOTE: When using disk openers on the Nos. 246, 247, 446, or 447 Planters, the opening for spouts on all fertilizer hoppers must always be to the outside.

1. The hopper brackets must be installed to the inside position on planter frame, as illustrated.

2. The hopper bottoms must be installed on the hopper brackets with the spout opening to the outside of planter, as illustrated.

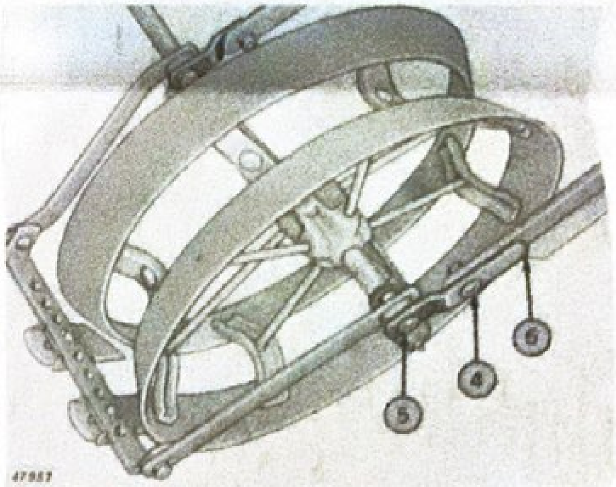
3. Remove split boot type opener from rear of planter shank.

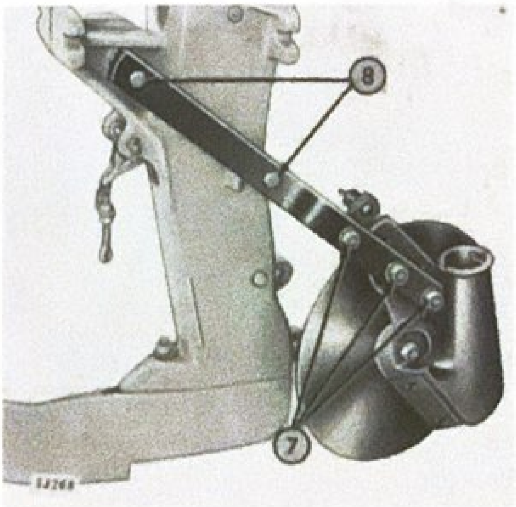
To give additional press wheel clearance, install extensions as instructed in steps 4, 5 and 6.

4. Remove press wheel from frame. Bolt press wheel extension brackets to the planter frame.

5. Attach press wheel to the extension brackets.

6. Line up the press wheel extension bracket so it is parallel with planter frame. Weld front end of extension bracket to planter frame.





NOTE: Install the disk openers to the inside of each planter shank for 36- to 42-inch row spacing and to the outside of each planter shank for 28- to 34-inch row spacing. In all cases, the opener unit must be installed with the disk toward the planter runner.

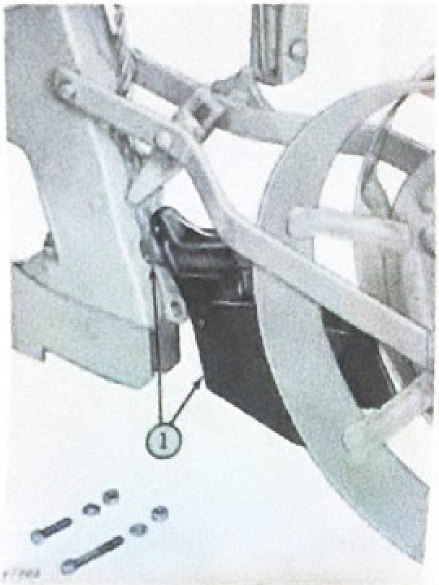
7. Attach disk and boot assembly and scraper assembly to opener arms.

8. Install disk opener arm to planter shank.

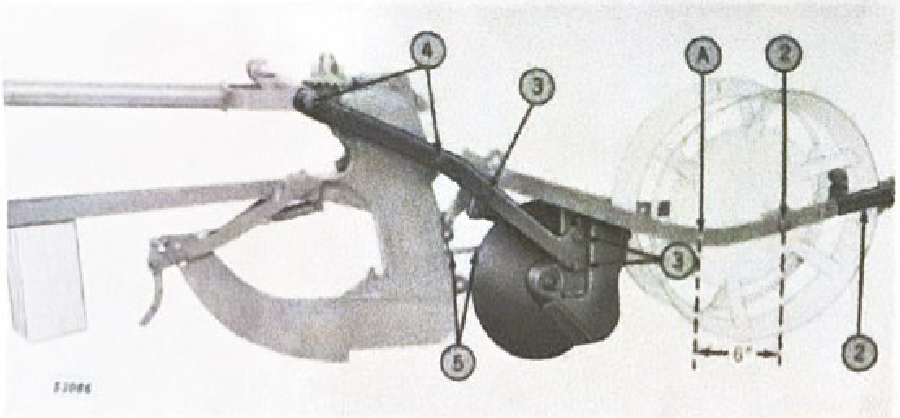
Direction 255-956 John Deere Planter Works Litho. in U.S.A.

JOHN DEERE NOS. 290 AND 490 PLANTERS

NOTE: When using disk openers on the No. 490 Planter, the two outside hopper brackets must be installed on planter frame in the inside position for all row spacings. Also, the openings for spouts on the outside hoppers must be to the outside for 40- or 42-inch row spacing and to the inside for 36- or 38-inch row spacing. When using disk openers on the No. 290 Planter, the openings for hopper spouts must be to the outside.

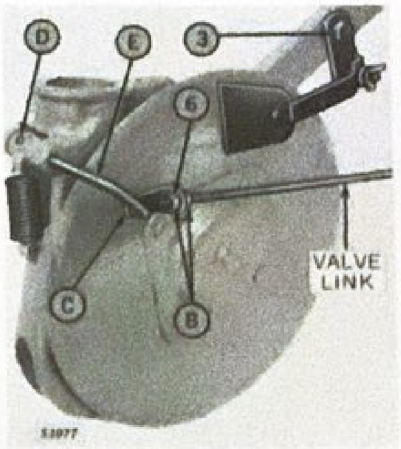


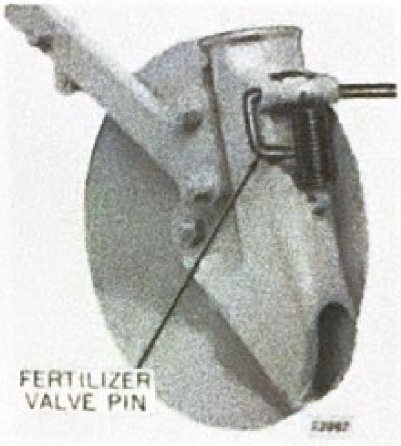
1. Remove split boot and valve link from rear of planter shank.



2. Remove press wheel from frame. Drill a 15/32-inch hole in each side of press wheel frame, 6 inches back from hole "A". Attach press wheel to rear hole. If steel press wheels are being used, install scraper extension on inside of press wheel frame.

NOTE: Install the disk openers to the inside of each planter shank on all No. 490 Planters and when using a row spacing of 36- to 42-inches on the No. 290 Planter. If using a row spacing of 30- to 34-inches on the No. 290 Planter, install disk openers to the outside of each planter shank. In all cases, the opener unit must be installed with the disk toward the planter runner.





3. Attach disk and boot assembly and scraper assembly to opener arms.

4. Install disk opener arm to planter shank.

5. Insert fertilizer valve link into opening at rear of planter shank and attach valve link holder.

6. Attach rear of valve link to valve link holder.

With planter valve in a closed position, adjust nuts "B," until fertilizer valve is completely closed.

To set fertilizer attachment with disk openers to drill the fertilizer in a continuous band when check-row planting or hill dropping, proceed as follows:

Pull out pin "C," disconnect valve link holder, and completely remove valve link from planter.

Turn set screw, "D," until fertilizer valve pin "E," can be removed.

Insert fertilizer valve pin, from the opposite side, all the way through the boot and fertilizer valve.

Hold the valve open, by hand, and tighten set screw securely.

PLANT THICK FOR TOP CORN YIELDS

A low plant population doesn't put corn in your crib; correct planting rates are as important as fertilization, weed and insect control

by Cal Orr

ONE thing you'll need to get the most corn this season is high plant population.

On most Corn Belt land, you want about 16,000 plants at harvest. That's about the right number on soils with good residual fertility, judging from Michigan State University tests.

If you have lighter, less fertile soil, 12,000 to 14,000 plants are about right.

Researchers say you can get 6 to 8 extra bushels of corn an acre with every increase of 1,000 plants from 12,000 to 18,000 per acre.

This takes for granted you have your planter in good working order. And it assumes you plant an adapted hybrid, take care of fertility needs, and whip weeds and insects. All of these things help produce big yields economically.

Top yields in corn clubs thruout the Midwest last year were made on fields planted at close to 18,000 plants per acre. In 40-inch rows that's a kernel every 8 to 9 inches.

How do you get the number of plants you want? These pictures and table show the way.

You need a good-quality hybrid that's well graded. Select the right plates for the seed corn grade you plant.

Check your tractor speed. Make sure that you're not traveling more than 3½ miles per hour.

Here's a good way to tell. Drop a rock to mark your starting place. Check your watch and travel for 30 seconds. Drop another rock and measure the distance between rocks. The number of feet traveled divided by 44 equals miles per hour.

Field tests by Michigan researchers indicate that a ground speed of about 3 miles per hour is as fast as most planters should travel. That is when you want 16,000 plants per acre and you're using a 16-cell plate. For each mile per hour above 3, they say, there is an average loss of about 800 plants per acre in an attempt to get 16,000 plants.

So, on less fertile soils where you want a lower population, you can increase ground speed up to 4½ miles per hour.

PLANT POPULATION PER ACRE

ROW WIDTH IN INCHES	12,000*	14,000*	16,000*
	KERNEL SPACING IN INCHES		
36	13.2	11.32	9.9
38	12.5	10.7	9.36
40	11.9	10.2	8.9
44	10.8	9.25	8.1
42	11·½	9·½	8·½

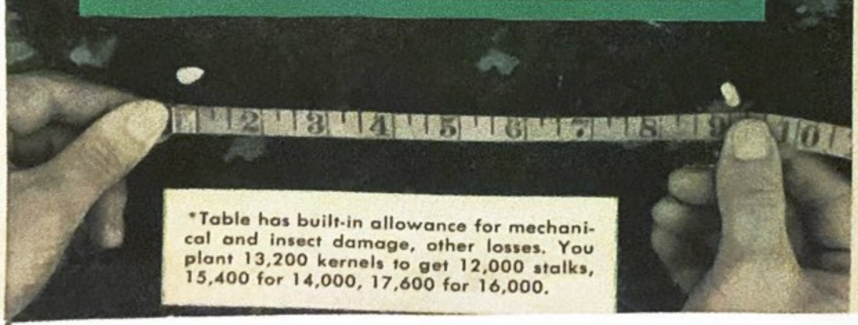


*Table has built-in allowance for mechanical and insect damage, other losses. You plant 13,200 kernels to get 12,000 stalks, 15,400 for 14,000, 17,600 for 16,000.

NUMBER KERNELS PER ACRE AT VARIOUS PLANTING RATES

	Checked Corn			Drilled Corn					Hill Dropped 2 to Hill			
				Distance Apart					Spacing Between Hills			
Distance Between Rows	2 to Hill	3 to Hill	4 to Hill	7"	9"	10"	14"	18"	16"	20"	24"	28"
38"	8690	13030	17380	23580	18340	16505	11790	9170	20630	16505	13750	11790
40"	7840	11760	15680	22400	17420	15680	11200	8710	19600	15680	13065	11200
42"	7110	10670	14220	21335	16595	14935	10670	8300	18670	14935	12445	10690

NUMBER OF KERNELS IN A BUSHEL OF TROJAN SEED CORN

Medium Flat — F6	78-84,000 kernels
Medium Flat — F4	70-76,000 kernels
Medium Rounds — R5	68-78,000 kernels